Journal
of the **AMERICAN PHARMACEUTICAL ASSOCIATION**

Practical Pharmacy Edition

PUBLISHER
American Pharmaceutical Association

SECRETARY AND GENERAL MANAGER
Robert P. Fischelis

COMMITTEE ON PUBLICATIONS
John B. Heinz, *Chairman*, John J. Dugan, Robert P. Fischelis, Glenn L. Jenkins, and Hugo H. Schaefer

EDITOR
Eric W. Martin

Associate Editors: Samuel W. Goldstein, Robert I. Bischoff; *Art Editor:* Paul Reed; *Contributing Editors:* George B. Griffenhagen, Paul Parker, Charles C. Rabe; *Editorial Assistants:* Catherine Wygod, Evelyne T. Auerbach; *Business and Circulation Manager:* Felix B. Gorrell, Controller; *Membership Records:* Mary Louise Bergner

ADVERTISING MANAGER
Robert I. Bischoff

ASSOCIATION OFFICERS
President, John A. MacCartney, Detroit, Michigan; Honorary President, F. W. Nitardy, Brooklyn, N. Y.; First Vice-President, Ronald V. Robertson, Spokane, Washington; Second Vice-President, John J. Dugan, New Haven, Connecticut; Secretary, Robert P. Fischelis, Washington, D.C.; Treasurer, Hugo H. Schaefer, Yonkers, N.Y.

HOUSE OF DELEGATES OFFICERS
Chairman, Troy C. Daniels, San Francisco, Calif.; Vice-Chairman, John H. Butts, Lansing, Mich.; Secretary, Robert P. Fischelis, Washington, D.C.

COUNCIL OFFICERS
Chairman, John B. Heinz, Salt Lake City, Utah; Vice-Chairman, Henry H. Gregg, Minneapolis, Minnesota; Secretary, Robert P. Fischelis, Washington, D.C.

COUNCIL MEMBERS
Elected Members: George F. Archambault (1959), Bethesda, Maryland; George D. Beal (1957), Pittsburgh, Pennsylvania; H. A. B. Dunning (1958), Baltimore, Maryland; Louis J. Fischl (1958), Oakland, California; F. Royce Franzoni (1959), Arlington, Virginia; Henry H. Gregg (1958), Minneapolis, Minnesota; Glenn L. Jenkins (1957), Lafayette, Indiana; Ernest Little (1957), Peacham, Vermont; Robert L. Swain (1959), New York, New York. *Ex-officio members:* John A. MacCartney (1957), President; Ronald V. Robertson (1957), First Vice-President; John J. Dugan (1957), Second Vice-President; Robert P. Fischelis (1959), Secretary; Hugo H. Schaefer (1959), Treasurer; Troy C. Daniels (1957), Chairman of the House of Delegates; John B. Heinz (1957), Immediate Past President.

SECTION OFFICERS
Scientific Section: George P. Hager, Chairman; Arthur J. McBay, Secretary, Massachusetts College of Pharmacy, 179 Longwood Avenue, Boston 15, Mass.; *Section on Practical Pharmacy:* Leslie M. Ohmart, Chairman; Samuel W. Goldstein, Secretary, 2215 Constitution Avenue, N.W., Washington 7, D. C.; *Section on Education and Legislation:* Hugh C. Ferguson, Chairman; James R. McCowan, Secretary, St. Louis College of Pharmacy, Euclid and Parkview Place, St. Louis 10, Missouri; *Section on Pharmaceutical Economics:* George L. Scharringhausen, Jr., Chairman; Benjamin A. Smith, Secretary, 3838 Hartman Drive, Indianapolis 18, Indiana; *Section on Historical Pharmacy:* Eunice Bonow, Chairman; George B. Griffenhagen, Secretary, Smithsonian Institution, Washington 25, D.C.; *Student Section:* Donald J. Miller, Chairman; Joann J. Johnson, Secretary, School of Pharmacy, University of Kansas City, Kansas City, Mo.

WOMEN'S AUXILIARY
President, Mrs. Leib L. Riggs, Portland, Oregon; 1st Vice-President, Mrs. R. Q. Richards, Fort Myers, Florida; 2nd Vice-President, Mrs. William P. Cusick, Detroit, Michigan; Secretary, Mrs. Elmer M. Plein, Seattle, Washington; Treasurer, Mrs. Earl P. Guth, Columbus, Ohio; Chairman of Student Loan Fund, Mrs. T. C. Daniels, San Francisco, Calif.

This Journal is the official monthly publication of the AMERICAN PHARMACEUTICAL ASSOCIATION, dedicated to the elevation and unification of the profession of pharmacy through communication of authoritative scientific, professional, and cultural information. It is devoted to the education of pharmaceutical practitioners, and it functions as the professional voice of pharmacy, which is directed to all members of the profession of pharmacy in education, government, industry, and professional practice.

VOL. 18 NO. 6 **JUNE 1957**

PUBLIC RELATIONS FOR THE PHARMACIST 360

Michel Lipman describes how the modern pharmacist, occupying a strange position in today's professional world, can achieve his public relations goals

SUPPLY AND DEMAND OF PHARMACISTS 362

Whether there is a shortage of pharmacists in this country depends upon the viewpoint, according to Wallace F. White

MOTIVES OF THE DISPENSING PHYSICIAN 370

William H. Helfand analyzes three major subconscious motives which explain the actions of dispensing physicians

INTERNATIONAL PHARMACEUTICAL FEDERATION 368

Jack Cooper outlines the scope, influence, and membership of FIP and describes the new Section of Industrial Pharmacists

SOLUBILITY OF BORIC ACID 366

Volumetric and gravimetric determinations of the solubility of boric acid in various solvents are reported and compared by John J. Sciarra, John Autian and Noel E. Foss

CURRENT COMMENT 365

Vital Statistics in the U.S.—Apothecary's Prayer

DEPARTMENTS

APhA MEMBERS 377
FEDERAL AND STATE ACTIONS 374
HOSPITAL PHARMACY 372
ON THE ECONOMIC SIDE 373
PRESCRIPTION PRACTICE
New and Nonofficial Drugs 380
Prescription Information Service 378
Progress in Medicine 384
New Prescription Products 386
New Prescription Products Index 390

EDITORIAL

LETTERS 354
EDITORIALS 356
STRAIGHT FROM HEADQUARTERS 358

NEWS

WASHINGTON VIEWS 341
NEWS AND NOTES 344
BRANCHES 352

The *Journal of the American Pharmaceutical Association* is published monthly by the American Pharmaceutical Association in two editions: *Scientific Edition* and *Practical Pharmacy Edition*, under the supervision of the Committee on Publications of the Council of the Association. Publication Office: 20th and Northampton Streets, Easton, Pennsylvania. Executive, Editorial, and Advertising Offices: 2215 Constitution Avenue, N. W., Washington 7, D. C. **Annual Subscription**—United States, Canada, Pan America, and Spain: *Practical Pharmacy Edition* $5.00, *Scientific Edition* $6.00, both editions $10.00. Other foreign: *Practical Pharmacy Edition* $6.00, *Scientific Edition* $7.00, both editions $12.00. Subscription rates are subject to change without notice. Members of the American Pharmaceutical Association receive the combined subscription as a part of their annual dues. Members may request omission of either edition, but this will not reduce the amount of the annual dues. **Single Copies**—*Practical Pharmacy Edition:* United States, Canada, Pan America, and Spain $0.50; other foreign $0.60. *Scientific Edition:* United States, Canada, Pan America, and Spain $0.60; other foreign $0.70. **Change of Address**—Members and subscribers should notify both the Post Office and the American Pharmaceutical Association about any change of address immediately. **Claims**—Missing numbers will not be supplied if claims are received more than 60 days after the date of issue, or if loss was due to failure to give notice of change of address. The Association cannot accept responsibility for foreign delivery when its records indicate shipment has been made. **Entered** as second class matter January 23, 1917, at the Post Office at Easton, Pennsylvania, under the Act of March 3, 1879, as 24 times a year; *Scientific Edition* monthly on the 5th and *Practical Pharmacy Edition* monthly on the 20th. Acceptance for mailing at a special rate of postage provided for in Section 1103, Act of October 3, 1917.

© *Copyright 1957, American Pharmaceutical Association, 2215 Constitution Ave., N. W., Washington 7, D. C.*

INCERT®

new... unique one-step additive vial saves time, labor and money in your hospital

NO AMPULES... NO NEEDLES ...NO SYRINGES

Simply remove tamperproof cover of INCERT and push sterile plug-in through large hole in stopper of solution bottle. It's that easy... and a completely closed, sterile system.

EXCLUSIVE HOSPITAL-USE FEATURES

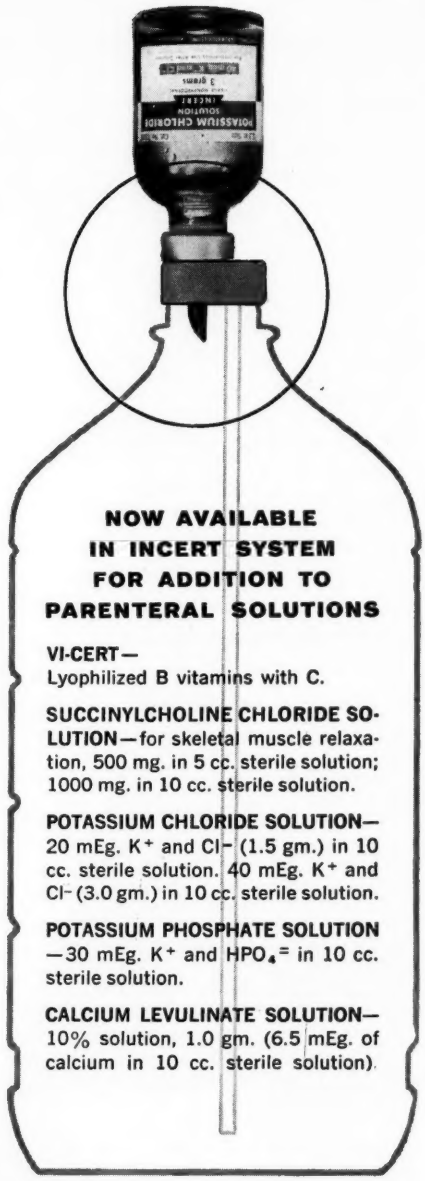
CONSERVES TIME — Instantaneous automatic supplementation of bulk parenteral solutions.

COMPLETELY STERILE—Closed system, from preparation to administration.

ECONOMICAL—Cuts labor and expense by eliminating ampules, needles and syringes.

SIMPLE TO USE—A foolproof system that eases the hospital care load.

***INCERT SYSTEM** is an original development of Travenol Laboratories, Inc. Complete literature and samples on request.*



NOW AVAILABLE IN INCERT SYSTEM FOR ADDITION TO PARENTERAL SOLUTIONS

VI-CERT—
Lyophilized B vitamins with C.

SUCCINYLCHOLINE CHLORIDE SOLUTION—for skeletal muscle relaxation, 500 mg. in 5 cc. sterile solution; 1000 mg. in 10 cc. sterile solution.

POTASSIUM CHLORIDE SOLUTION—20 mEg. K^+ and Cl^- (1.5 gm.) in 10 cc. sterile solution. 40 mEg. K^+ and Cl^- (3.0 gm.) in 10 cc. sterile solution.

POTASSIUM PHOSPHATE SOLUTION—30 mEg. K^+ and $HPO_4^=$ in 10 cc. sterile solution.

CALCIUM LEVULINATE SOLUTION—10% solution, 1.0 gm. (6.5 mEg. of calcium in 10 cc. sterile solution).

TRAVENOL LABORATORIES, INC. MORTON GROVE, ILLINOIS

Pharmaceuticals Products Division of **BAXTER LABORATORIES, INC.**

WASHINGTON VIEWS

Federal Grand Jury inquiries may be expected in the near future in 13 states where Fair Trade does not now exist. Complaints began reaching the Federal Trade Commission soon after a Federal Grand Jury indictment was returned alleging that Parke-Davis conspired with wholesalers in Washington, D.C., and Norfolk, Va., to fix retail prices where Fair Trade was nonexistent, and an antitrust action was brought against Parke-Davis because of limited sale of its over-the-counter pharmaceuticals to pharmacies. These suits throw down a challenge to the entire pharmaceutical industry. The courts are using Parke-Davis distribution policies as a basis for a test case which, if unsuccessful for Parke-Davis, could very well influence not only pharmaceutical manufacturers but all manufacturers everywhere, for the Federal agencies could then dictate how products of manufacturers are to be distributed. Manufacturers would not be able to direct the distribution of their products exclusively through long-established, legitimate channels at fair profits and prices to all concerned, but they would lose all responsibility and control once the products left the plant. Distribution of drugs in the wrong environment, by nonprofessional personnel, under dubious conditions, would destroy the prestige of ethical products, destroy public confidence in the name of the manufacturer, and undermine the stature of Pharmacy as a profession.

The professional status of Pharmacy and the other allied medical sciences will be strongly fortified if favorable action is taken in the 85th Congress on H.R. 6801 introduced by the Hon. Carl T. Durham. This bill, if it becomes law, authorizes star rank for the Chief of the Medical Services Corps of the Regular Army. Pharmacists are urging their Congressmen to get the bill out of committee and at the same time to point out its advantages to all the allied health professions.

Elliot L. Richardson, Assistant Secretary, Health, Education, and Welfare, has warned American Medicine: "If large numbers of American people find that they are unable to pay for the increase in costs of medical care—or if, as consumers, they do not get the kind and extent of prepayment protection that is needed—then there will be growing pressure for governmental action. . . the American people remain staunch supporters of private endeavor and support it vigorously so long as it does the job at hand . . . our reluctance to call upon the Government to act is most readily overcome when two circumstances occur in combination: (1) a strongly felt need for more effective action and (2) the demonstrated inability of private effort to meet this need."

The Committee on Illicit Traffic, a subsidiary body of the U.N. Commission on Narcotic Drugs, with members from Canada, Egypt, India, Iran, Mexico, Turkey, United Kingdom, and the United States, has made a global review of illicit transactions in narcotic drugs. There was evidence of a considerable amount of illicit opium being available. Cannabis (marihuana, hashish, maconha, charas, bhang, ganja, dagga, kif, takrouri, etc.) is the most widespread drug of addiction

LAST MINUTE NEWS

Each month a group of 3,000 selected households will be visited across the country by investigators of the National Health Survey, a continuing sickness and disability survey approved by the last session of Congress. Questions will be asked about illness in the family, accidents, injuries, hospitalization, and medical and dental care.

According to Stanford University Medical School researchers, lung cancer has been rapidly increasing, and about 30,000 Americans will die from it this year, half of them because they did not consult a doctor early enough.

Sarcoidosis, a mysterious disease resembling tuberculosis, will be studied in 5 Veterans Administration Hospitals, at Atlanta, Ga., Dallas, Tex., Madison, Wis., New York City Hospital, and Washington, D.C.

Over 850,000 deaths last year, more than half the total number in this country, were caused by disorders of the heart, blood vessels, and related organs, according to the Health Information Foundation.

The U.S. public pays about $3,000,000 every day of the year in tax funds to care for mental patients.

Careless use of pesticides causes the death of 100 to 150 persons each year, according to Dr. Bernard E. Conley, Secretary of the American Medical Association's Committee on Pesticides.

This year, tranquilizers may move into second place, just behind antibiotics, in volume of drug sales as the U.S. plunges into "the era of the chemical modification of the human personality," according to a report in the May issue of *Fortune.*

Skin eruptions, headaches, deafness, dizziness, and facial features swollen beyond recognition have been caused by the popular drink, gin and tonic, when taken by individuals sensitive to quinine.

Of the 80 U.S. medical schools (74 four-year and 6 two-year schools), 74, covered in a recent survey by the National Science Foundation, spent $66,300,000 for research (academic year 1953–54). Research faculty members (full-time equivalent) total 3,167

The Detroit Institute of Technology is merging its College of Pharmacy with the College of Pharmacy of Wayne State University.

Numerous salaried positions in pharmacies across the nation ($100 to $135 a week starting salary) are going begging, according to a recent report of the National Association of Chain Drug Stores.

An estimated total expenditure of $5,400,000,000 was spent for research and development by all sectors of the U.S. economy in 1954, according to a report just released by the National Science Foundation. Of approximately $206,000,000 spent for separately-budgeted research by colleges and universities, about 70% originated from the Federal Government.

The Korean GI Bill set a new record this spring of 764,000 veterans enrolled in courses in colleges and universities, and in other types of training programs.

Every pharmacy in the 48 states and D.C. is being asked to cooperate in a Census of Drug Stores and Prescriptions being made in cooperation with the National Conference of State Pharmaceutical Association Secretaries.

The Government of the United States has reassured the Government and people of Japan that the current Nevada nuclear weapons tests will be conducted in such a manner as not to result in any significant addition to radiation levels through the world. Low-yield fission devices will be tested only when weather conditions are the most favorable, and detonations will occur away from the surface of the testing area.

The Civil Defense Administration estimates that a surprise enemy attack on the U.S. would kill 85,000,000 persons even if bomb shelters were available, although the FCDA estimates that approximately 32,000,000 of the 90,700,000 who live in 185 designated target areas could be evacuated by motor vehicles to points 15 miles from a selected ground zero in an hour and a half.

A man of 60 now has a life expectancy of 16 years, and a woman of 60 has an expectancy of over 19 years, according to President Ernest H. Volwiler of Abbott Laboratories.

World War I veterans dying at the rate of 90,000 yearly now number somewhat less than 3,000,000.

A 10% increase in leukemia can be expected if only one-tenth of the "maximum permissible concentration" of strontium-90 is maintained in the body, according to Dr. E. B. Lewis, California Institute of Technology. Of the 95 confirmed cases of leukemia occurring among the inhabitants of Hiroshima and Nagasaki between January, 1948 and September, 1955, a total of 69 are considered to have been caused by radiation from the A-Bomb.

The great gains that have been made in lengthening life and reducing death rates is evidenced by a world population of 2,700,000,000 early in 1957, an estimated 6% of all people born during the Christian era.

The world consumption rate of 3 natural narcotics used as analgesics (morphine, heroin, and hydromorphone) was still two and one-half times that of the 5 principal synthetics (pethidine, methadone, ketobemidone, levorphanol, and phenadoxone), according to a United Nations report.

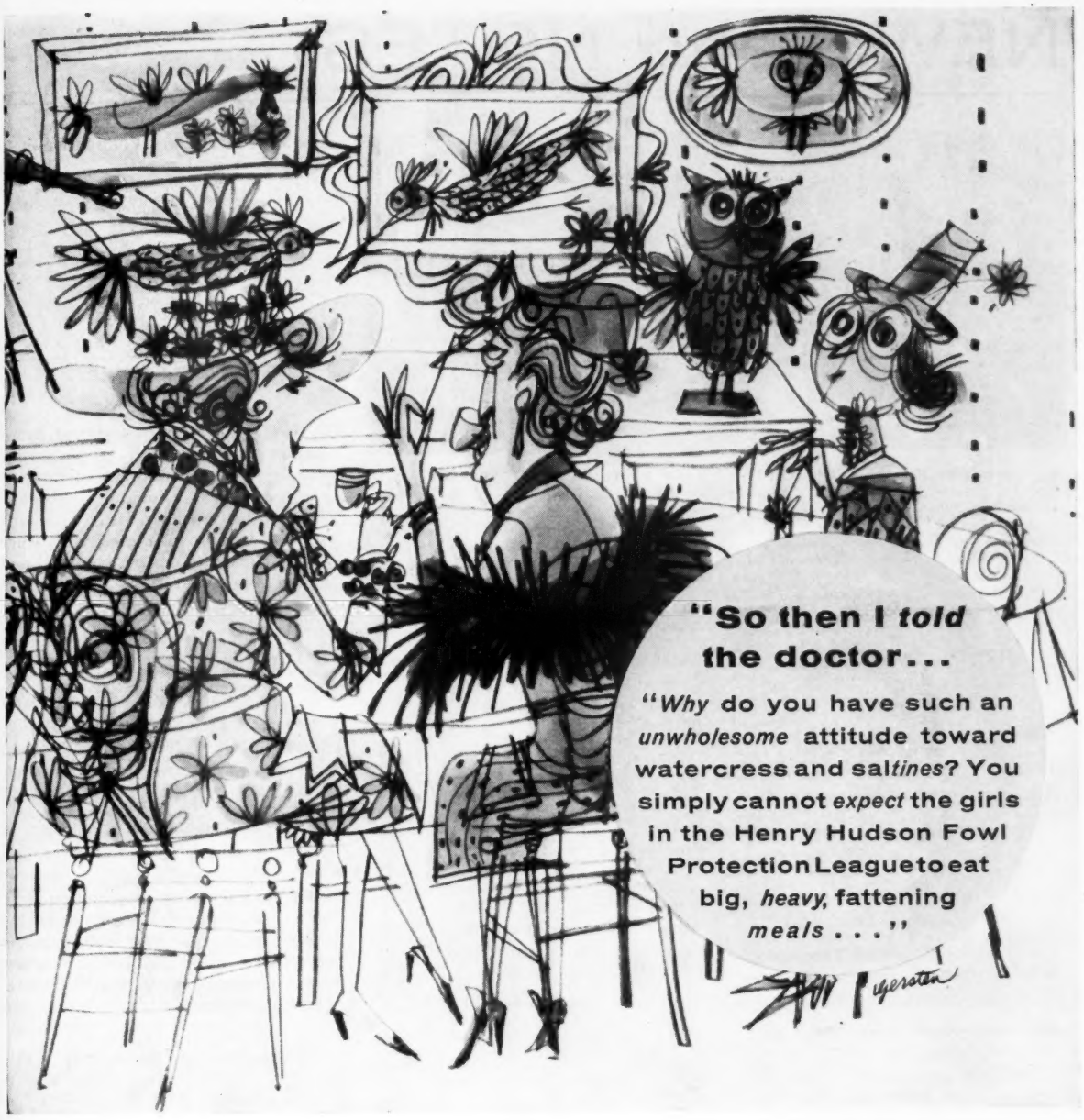
On the basis of 740,295 patients in U.S. psychiatric hospitals in 1955, the amount spent for research per individual hospital case was only about $37, according to the National Committee against Mental Illness, Inc.

Bristol-Meyers Co. waived damages in its suit against R. H. Macy and Company, Inc., when the latter admitted the validity of Bristol-Meyers' trademark Bufferin and agreed that in the future it will not falsely represent that any product is Bufferin, will not use or refer to the name Bufferin as a common descriptive or generic term, will not substitute any product for Bufferin, and will not employ the name Bufferin other than as a trademark identifying Bristol-Meyers' product. Macy will be permitted to use the name "buffered aspirin."

40,000 Americans were killed and 2,368,000 were injured in automobile accidents on U.S. highways during 1956, increases of 6% and 10%, respectively, over 1955, according to the Travelers Insurance Companies' recent safety publication "Headless Horsepower." Checking of drivers appears to be more urgently needed than checking of automobiles.

Nonmedical uses of antibiotics in food preservation, plant disease control, and animal nutrition are resulting in the development of microorganisms with increased resistance against these antibiotics.

Vernon O. Trygstad, Director of Pharmacy Service, Veterans Administration, has announced that the VA is inviting renewal of all its contracts with state pharmaceutical associations for handling outpatient prescription services before the expiration date on June 30, 1957.


"So then I told the doctor...
"Why do you have such an unwholesome attitude toward watercress and saltines? You simply cannot expect the girls in the Henry Hudson Fowl Protection League to eat big, heavy, fattening meals . . ."

When the doctor finally brings her around, she'll be heading your way for a good B-Complex. Better check now to see that you've got SUR-BEX on hand.

A GOOD B-COMPLEX

sur-Bex® with C

(Abbott's B-Complex Tablets with C)

Just one Sur-Bex tablet a day supplies:

Thiamine Mononitrate	6 mg.
Riboflavin	6 mg.
Nicotinamide	30 mg.
Pyridoxine Hydrochloride	1 mg.
Vitamin B_{12} (as cobalamin concentrate)	2 mcg.
Calcium Pantothenate	10 mg.
Ascorbic Acid	150 mg.
Desiccated Liver, N. F.	300 mg.
Brewer's Yeast, Dried	150 mg.

As a dietary supplement: 1 or 2 tablets daily
In convalescence: 2 or more daily

Abbott

707179

NEWS and NOTES

4th PAN-AMERICAN CONGRESS OF PHARMACY AND BIOCHEMISTRY Section Secretaries (l to r, seated) Dr. Patrick H. Costello, Pharmacy Laws and Ethics; Dr. James C. Munch, Pharmacology; Adolph E. Tiesler, Manufacturing Pharmacy; Dan Rennick, Pharmaceutical and Biochemical Journal Editors; Dr. Lloyd C. Miller, Pharmacopeias and Formularies; (standing) Dr. Heber W. Youngken, Jr., Pharmacognosy, Phytochemistry and Botany; Robert E. Abrams, Practical Pharmacy; Grover C. Bowles, Jr., Hospital Pharmacy; Dr. Melvin W. Green, Pharmaceutical Education; Dr. Glenn Sonnedecker, Historical Pharmacy and Historical Biochemistry; and Dr. George P. Hager, Jr., Pharmaceutical Chemistry and Biochemistry. Dr. Paul Olsen, Pharmaceutical Economics and Management, is not present.

ASSOCIATIONS

American Heart Association will hold its 30th Scientific Sessions in Chicago October 25–28, with the deadline for abstracts of papers to be presented set for June 15. The sessions will commemorate the 300th anniversary of the death of William Harvey, discoverer of the circulatory system as we understand it today.

American Public Health Association will hold its 85th annual meeting in Cleveland, Ohio, November 11–15.

American Red Cross met May 20–22 in Washington, D.C., for its 32nd national convention. The 5,000 delegates were informed that Red Cross finances were at their lowest since before World War II, with $33,000,000 having been spent for disaster relief last year and $17,700,000 expected to be spent for the same purpose this year.

Florida Board of Pharmacy Secretary *F. A. Canova* reports that, "139 applicants were successful by examination before the Florida Board of Pharmacy on March 13. The next examination will be held in Gainesville on July 8–9–10."

4th Pan-American Congress of Pharmacy and Biochemistry—Titles and abstracts of papers for presentation at this year's November 3–9 sessions in Washington, D.C., must be in the hands of the appropriate Section Secretary no later than September 1. Section Secretaries are pictured and identified above. See also July issue for a list of the participating Associations.

UNIVERSITY OF MARYLAND School of Pharmacy Senior Class is shown accompanied by faculty members and APhA staff members in front of the American Institute of Pharmacy on the Class' visit to APhA Headquarters May 14.

National Vitamin Foundation held its 12th annual meeting March 5 at which *Dr. Russell M. Wilder* of the Mayo Clinic was re-elected President of the Foundation and *Dr. Robert S. Goodhart* was re-elected for his 12th year as Executive Vice President and Scientific Director. Proceedings of the all-day "Symposium on Some Recent Observations on Biological Relationships" are being made available by the Foundation.

New Jersey Pharmaceutical Association has launched a state-wide campaign designed to forewarn parents against accidental poisoning. Association members are attaching stickers to all over-the-counter drugs and medicines and other chemical and household preparations as they are sold to consumers stating:

WARNING

Unless otherwise directed by your physician, do not take or use this preparation except in strict accordance with the specified directions for use shown on the label.

CAUTION
KEEP OUT OF THE REACH OF CHILDREN

Ohio Board of Pharmacy—*Frank E. Kunkel* of Cincinnati has been named to the Board for a 4 year term.

Parenteral Drug Association met for a day's session in Chicago April 12 and heard *Dr. Austin Smith*, Editor of the *American Medical Association Journal*, talk at the banquet on "The Medical Future."

Pharmaceutical Advertising Club devoted its 6th annual clinic May 9 to the theme: "The Changing Scene in Pharmaceutical Marketing." The PAC commemorated the opening of the American Medical Association Convention in New York with a special luncheon on June 3 at which Minnesota's pharmacist-legislator, U.S. Senator *Hubert H. Humphrey*, spoke on worldwide public health.

Southern California Pharmaceutical Association has been commended by the 31st District, California Congress of Parents and Teachers, Inc., of Van Nuys for "clearing their newsstands voluntarily of obscene and indecent publications."

Virginia Pharmaceutical Association—A 2-day Pharmacy Seminar sponsored jointly with the Medical

College of Virginia School of Pharmacy brought to the attention of the nearly 150 attending that cancer and mental ills will eventually be controlled by drugs; that the pharmacist can cooperate in animal disease control by advising early professional diagnosis; and, in an extemporaneous speech on developments in narcotic regulations by *Okla Johnson*, Federal Narcotic Agent, that his primary objective is to help people before they run into trouble. *Ralph M. Ware, Jr.*, Secretary-Treasurer of the State Board of Pharmacy, discussed recent legislation and *Prof. Joseph Z. Krezanoski*, new developments in pharmaceutical dispensing.

Washington Pharmaceutical Association honored *F. Royce Franzoni*, Past President of the APhA, at its 10th anniversary dinner. *Dean Chauncey I. Cooper* of Howard University College of Pharmacy and *Charles E. Qualls*, founder of the Association, shared in the honors and awards.

COLLEGES

Massachusetts College of Pharmacy held its 18th annual refresher course program in a series of Tuesday and Thursday evening lectures during May, ending with its popular Prescription Clinic. *Prof. Leslie M. Ohmart* contributed a talk on the pharmaceutical aspects of fluoride therapy. Other members of the faculty and visiting medical doctors spoke on mental illness, antibiotic therapy, the chiropody-pharmacy relationship, and parkinsonism as a disease of our growing aged population.

Ohio State University College of Pharmacy will soon add a portable electrophoresis apparatus to its equipment as the result of a $7,000 grant from the University Development Fund. Professors *Jack L. Beal* and *Michael P. Cava* will be provided with $2,000 from the same Fund to further their investigation of Ohio plants for medically important constituents.

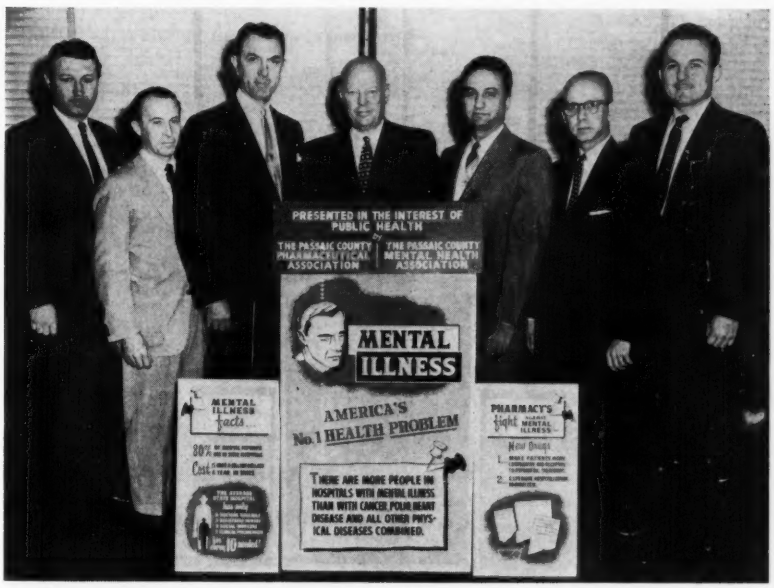
Philadelphia College of Pharmacy and Science has been holding a series of award-making dinners and ceremonies this spring. *Dr. Paul C. Olsen*, a faculty member for 35 years, who is leaving to become Chairman of the Brooklyn College of Pharmacy's new Graduate Department, was honored at the Alumni Reunion Dinner. *Dr. Karl F. Folkers*, discoverer of vitamin B_{12} and Executive Director of Fundamental Research at Merck Sharp and Dohme, received the Julius W. Sturmer Memorial Citation. The Alumni Association Awards for 1957 went to *Madeline Holland McDonnell*, Editor of *American Professional Pharmacist*, and *Dr. Louis Gershenfeld*, Director of the College's Department of Bacteriology, for their outstanding contributions to professional pharmacy.

Rutgers University 6th annual Pharmaceutical Conference held May 8 drew 500 representatives of all phases of pharmacy to hear, among others, *Dr. Leonard A. Scheele*, former U.S. Surgeon General and now President of Warner-Chilcott Laboratories, call the role of the pharmacist "in this chemotherapeutic age, a major one." Other speakers considered the profit structure, future pharmaceutical products, and meeting competition. *Edward Mogull*, Vice President of the Connecticut Pharmaceutical Association, accused pharmacists of not knowing the true cost of prescriptions and of being addicted to "one-thirditis."

St. Louis College of Pharmacy and Allied Sciences held a one-day refresher course and open house April 24. Day-time subjects included a look at legal loopholes in the licenses, labels and liabilities of the pharmacist, dispensing problems, and modern concepts of therapy, presented by faculty members; prescription pricing and veterinarian-pharmacist relations; and a panel discussion on merchandising at the retail level which included a summary of over six years' experience with self-service. The open house, held in the evening, provided displays and demonstrations in the laboratories and library of the College.

Southern College of Pharmacy—*Dr. Melvin A. Chambers*, Dean of the College since 1952, has resigned to take a position in private industry. *Dr. Oliver M. Littlejohn*, Associate Professor of Pharmacy at the University of Kentucky, succeeds Dr. Chambers.

University of California will hold a series of summer institutes for 330 science high school teachers under a grant from the National Science Foundation in an effort to strengthen the nation's scientific manpower.


PRESENTED IN THE INTEREST OF PUBLIC HEALTH
THE PASSAIC COUNTY PHARMACEUTICAL ASSOCIATION
THE PASSAIC COUNTY MENTAL HEALTH ASSOCIATION
MENTAL ILLNESS
AMERICA'S No. 1 HEALTH PROBLEM
THERE ARE MORE PEOPLE IN HOSPITALS WITH MENTAL ILLNESS THAN WITH CANCER, POLIO, HEART DISEASE AND ALL OTHER PHYSICAL DISEASES COMBINED.
MENTAL ILLNESS facts
PHARMACY'S fight AGAINST MENTAL ILLNESS

PASSAIC COUNTY (N.J.) Pharmaceutical Association cooperated with the local Mental Health Association to Distribute posters. David Bookstaber, PCPA President, is third from the right. Frank Pinchak, Vice President, N.J. Pharmaceutical Association, is at extreme left.

University of Maryland—*Dr. John C. Krantz, Jr.*, Professor of Pharmacology at the University's School of Medicine, has been awarded the first annual Scientific Achievement Award established by the APhA Philadelphia Branch in connection with its 50th anniversary celebration this year. Dr. Krantz was honored for his scientific achievements in relation to pharmacy and medicine.

University of Minnesota—*George P. Hager, Jr.*, is leaving the Research & Development Division of Smith, Kline & French Laboratories to become Dean of the College of Pharmacy in Minneapolis.

announcing a

MARSILID

(Iproniazid) 'Roche

Q. What is Marsilid?

A. Marsilid (iproniazid) is an amine oxidase inhibitor which affects the metabolism of serotonin, epinephrine, norepinephrine and other amines.

Q. How does Marsilid act?

A. Marsilid has a normal eudaemonic* rather than an abnormal euphoric effect; it promotes a feeling of well-being and increased vitality; it restores depleted energy and stimulates appetite and weight gain in chronic debilitating disorders.

Q. How soon is the effect of Marsilid apparent?

A. Marsilid is a slow-acting drug. In mild depression it usually takes effect within a week or two; in severe psychotics, results may be apparent only after a month or more.

Q. What are the indications for Marsilid?

A. Mild depression in ambulatory, non-psychotic patients; psychoses associated with severe depression or regression; stimulation of appetite and weight gain in debilitated patients; chronic debilitating disorders; stimulation of wound healing in draining sinuses (both tuberculous and non-tuberculous); adjunctive therapy in rheumatoid arthritis when associated with depressed psychomotor activity (Marsilid stimulates physical and mental activity, appetite and weight gain without objective joint changes).

*Eudaemonia is a feeling of well-being or happiness; in Aristotle's use, felicity resulting from life of activity in accordance with reason.

a psychic energizer

(the opposite of a tranquilizer)

Q. **What is the dosage of Marsilid?**

A. The daily dose of Marsilid should not exceed 150 mg (50 mg t.i.d.). In patients who are not hospitalized, the dosage should be reduced after the first 8 weeks to an average of 50 mg daily or less, for Marsilid is a cumulative drug. Like all potent drugs, Marsilid requires careful individual dosage adjustment.

Q. **What are the potential side effects of Marsilid?**

A. Side effects due to Marsilid are reversible upon reduction of dosage or cessation of therapy. It may cause constipation, hyperreflexia, paresthesias, dizziness, postural hypotension, sweating, dryness of mouth, delay in starting micturition, and impotence.

Q. **When is Marsilid contraindicated?**

A. Marsilid is contraindicated in overactive, overstimulated or agitated patients. Marsilid therapy should be discontinued two days before the use of ether anesthesia. It should not be given together with cocaine or meperidine. In patients with impaired kidney function, Marsilid should be used cautiously to prevent accumulation. Marsilid is not recommended in epileptic patients.

Marsilid is supplied in scored tablets of three strengths:

	Suggested Price to Retailer	Minimum Retail Resale Price
50 mg		
100's	$ 4.00	$ 6.67
1000's	34.50	57.51
25 mg		
100's	3.00	5.00
1000's	27.50	45.84
10 mg		
100's	2.25	3.75
1000's	20.50	34.17

MARSILID® PHOSPHATE — brand of iproniazid phosphate (1-isonicotinyl-2-isopropylhydrazine phosphate)

HOFFMANN-LA ROCHE INC • NUTLEY 10 • NEW JERSEY

OWENS-ILLINOIS Prescription Ware representative Joseph Geagan presents Sister Mary John, Chief Pharmacist, Mercy Hospital, Toledo, with a hand-made globe honoring her for having received the 1957 Whitney Award (THIS JOURNAL, *April, page 198*).

University of Mississippi's Professor of Pharmaceutical Chemistry, *Dr. W. Lewis Nobles*, has been named a Pfeiffer Memorial Postdoctoral Research Fellow for 1957–58.

University of North Carolina School of Pharmacy celebrated the 10th anniversary of the N.C. Pharmaceutical Research Foundation April 3. The day was marked with presentation of a portrait of *Dean E. A. Brecht* by Wyeth Laboratories. *E. C. Daniel*, Past President of the N.C. Pharmaceutical Association when the Foundation was founded and more immediately famous as the father-in-law of the former Margaret Truman, noted the 19 doctor's degrees awarded by the School since establishment of the Foundation.

University of Pittsburgh School of Pharmacy devoted the first annual *Julius A. Koch* Memorial Lecture of April 10 to tranquilizers—present and future, expounded by *Prof. Amadeo S. Marrazzi* of the Pitt School of Medicine.

University of Rhode Island College of Pharmacy announces four appointments effective July 1: *Dr. George E. Osborne*, as Professor and Head of the Pharmacy Department; *Dr. Daniel P. N. Tsao*, as Associate Professor of Pharmacognosy; *Edward W. Underhill*, Instructor in Pharmacognosy; and *Henry M. Mason*, Administrative Material Assistant in Pharmacy. . . . *Dr. Heber W. Youngken, Jr.*, Dean of the College, has just received a U.S. Public Health Service grant of $26,700 to cover a 3 year period of research directed principally at discovering tranquilizing compounds in drug plants. The grant includes two research assistantships.

University of Texas pharmacy students heard a series of lectures, with first- and second-year classes addressed by *J. W. Seibert*, McKesson & Robbins Vice President, on the relation of service wholesaler druggist and pharmacist; *Fred H. Lowe*, Lilly District Sales Manager, addressing junior and senior students on the activities of the Drug Travellers Association and the importance of research; *C. Lincoln Williston*, Executive Secretary of the Texas Medical Association, speaking to the same group about national problems facing pharmacy and medicine; and *John A. MacCartney*, APhA President, addressing the College's Longhorn Pharmaceutical Association.

University of Utah celebrated the 10th anniversary of the College of Pharmacy with an all-day birthday party at which *Newell Stewart*, Executive Vice President for the National Pharmaceutical Council and Past APhA President, and the current APhA President, *John A. MacCartney*, were heard. Mr. MacCartney is Manager of Trade Relations for Parke, Davis & Company.

University of Wisconsin School of Pharmacy held the 7th annual Kremers Memorial Lecture with *Dr. J. Alfred Hall* as speaker. At present Director of the U.S. Department of Agriculture Forest Products Laboratory and a former student and associate of the late Dr. Kremers, Dr. Hall reminisced on "Professor Edward Kremers As I Knew Him."

GOVERNMENT

Army Chemical Corps has developed an artificial respiration device, now undergoing field testing, to be used for treating nerve gas casualties, drowning cases, electric shock, suffocation, and similar accidents. It will be a year before the equipment is generally available.

Food and Drug Administration—The 5th annual Symposium on Antibiotics, sponsored by the FDA and the journals *Antibiotics and Chemotherapy* and *Antibiotic Medicine & Clinical Chemotherapy*, will be held October 2–4 in Washington, D.C. Abstracts (200 words or less) must be submitted no later than August 19 and manuscripts by September 2 to permit early publication of the "Antibiotics Annual 1957–58." *Dr. Henry Welch*, Director of the FDA Division of Antibiotics, to whom abstracts and manuscripts are to be submitted, notes that "Antibiotics Annual 1956–57" was ready for distribution February 28.

National Institutes of Health held the 2nd international colloquium on epilepsy March 22–23 at its headquarters in Bethesda, Md. The first was held in Marseilles, France, in November 1954. There are an estimated 1,500,000 Americans suffering from epilepsy and it is believed that those having psychomotor or temporal lobe epilepsy may be as high as 40%.

Public Health Service—The first training grants under the 1955 Federal law providing for air pollution research and technical assistance have been announced. Totaling $90,864 for 8 grants, the program will cover training in both medical and engineering aspects with emphasis being placed in the first year on awards to institutions for curriculum development. Individuals desirous of getting specialized training, as well as state and local government agencies, will also be eligible for grants under this program.

Veterans Administration hospitals are beginning a nation-wide study

Announcing

CASUALTY—LIABILITY—
BURGLARY

In addition
to Fire & Allied Lines
for *your* further protection.

THE DRUGGISTS' OWN
Service Security Savings
THE AMERICAN DRUGGISTS' INSURANCE CO.
American Building
Cincinnati Ohio
INSURANCE CO.

Consult Our Agent

LONG,
SUNNY SUMMER DAYS
MEAN

TIRED EYES

COLLYRIUM

MEANS FAST, STEADY TURNOVER!

PERMANENT BONUS

DEAL GIVES YOU

UP TO 53.9%* RETURN!

Now's the time to really take advantage of Wyeth's year 'round Collyrium bonus deal! This soothing, refreshing eye preparation is tailor-made for the harsh glare, dust and dirt of summertime!

DISPLAY LOTION AND DROPS

Available:

COLLYRIUM LOTION	When You Buy	We Give You, FREE
Bottles of 4 and 7 oz.,	116	28
each with eyecup	60	12
COLLYRIUM DROPS		
Bottles of 5 fl. dr.,	21	3
with dropper	11	1

MASS DISPLAYS BRING HIGHER VOLUME, BIGGER BONUS!

Protect your profit with Wyeth products!

*Based on minimum direct order

Wyeth
Philadelphia 1, Pa.

A. H. ROBINS CO. President E. Claiborne Robins explains the "Bowl of Hygeia," made in Mexico and presented by Latin American agents in 1953 on Robins' Silver Anniversary. Flight surgeons studying at the Naval Medical Center were on a visit to the plant.

of the tranquilizing drugs under which psychiatric nurses will play an important role in rating changes in the behavior of their patients.

INDUSTRY

Abbott Laboratories' *Elmer B. Vliet,* Vice President and Scientific Administrator, presented awards for outstanding scientific achievement at the 12th annual dinner of the Abbott Research, Development, and Control Departments to: *Dr. Warren J. Close* for his work in synthetic antiepileptic drugs; pharmacist *Matthew J. Lynch* for his work with emulsions, suspensions, and ointments; *Robert T. Olsen* for bioassay procedures; *Julian E. Philip* and *Dr. Robert W. Rivett,* both for work in antibiotics; and *Miss Ida Mae Shepperd* for data organization in Abbott's acute toxicity program.

The American Druggists' Insurance Company Secretary *David P. Pickrel* announces that in line with its belief that the pharmacist is a preferred risk, it has been able, through special filings, to broaden its services. The ADIC is now providing casualty lines of insurance to cover pharmacists' liability; owners', landlords' and tenants' liability; plate glass insurance; store burglary and theft; comprehensive personal liability; and new homeowners' policies A, B, and C, for most states. In addition, it is providing for most areas of the country a much larger fire insurance policy to take care of the rapidly increasing valuation on pharmacies, buildings, and dwellings.

Burroughs Wellcome & Company has elected *Edwin C. Abrahamsen* as a Vice President.

CIBA's *Lawrence H. Zahn,* Manager of Methods and Package Development, has been appointed by the Business and Defense Services Administration of the U.S. Department of Commerce as Deputy Director of the Containers and Packaging Division. On loan from Ciba for 6 months, Mr. Zahn brings 15 years of experience in the pharmaceutical packaging field to the service of the Government, and this without compensation by it.

Lederle Laboratories—A 12 point program for increasing prescription sales was presented by *Maxwell James,* Central Sales Manager, to the Gulf Coast Pharmaceutical Association annual convention. Setting out to learn why 8,000 of the nation's independent pharmacies average 47 prescriptions a day and the remaining 40,600 independent pharmacies average only 2.1 a day, the Lederle field force discovered that the successful pharmacists: eliminated the fountain; provide a customers' lounge; train their pharmacist employees in telephone answering techniques, especially on new drugs; provide physicians with names and home telephone numbers of all the establishment's pharmacists; provide directory of names, addresses, and telephone numbers of all pharmacies and detailmen in area; are active in community and professional activities; conduct continuous personal detail campaign with doctors and dentists in community; stress friendly relations with other members of the health team; send regular mailings on new drug information and abstracts of important medical journal reports to physicians and dentists; provide physicians' lounge in back of store having unlisted telephone, light refreshment, reading rack with information on new drug developments and an accessible new products shelf; provide quick, courteous service, fast delivery, charge accounts, and prepare a booklet for customers listing their annual drug purchases. Lastly, the successful pharmacist goes out to get the prescription business in many ingenious and tactful ways.

McNeil Laboratories—That public relations efforts undertaken by the Health News Institute, Health Information Foundation, National Pharmaceutical Council, to name just a few of the more recently organized groups, are finding increasing grass roots interest is evident from a recent trip President *Henry S. McNeil,* made to address the Maricopa County Ariz., Medical Society. A wholesale druggist made the point to Mr. McNeil that laymen have evidently learned enough about pharmaceutical distribution to want to visit wholesale houses in the Phoenix area.

Wm. S. Merrell Company—*Raymond D. McMurray* has been named Secretary.

Nepera Laboratories—Warner-Lambert announces the appointment of *Julien A. Garbat* as Advertising Manager for Nepera.

Purdue Frederick Company has appointed *Irving A. Schlakman,* Brooklyn College of Pharmacy '47, as Products Control Manager. Mr. Schlakman received his Master's degree in Pharmacy from New York University in 1950.

G. D. Searle & Company has appointed *Dr. Robert I. Chien,* Director of Marketing Research. Dr. Chien, now a U.S. citizen, was born in Tientsin, China, and is currently President of the Detroit chapter of the American Statistical Society.

E. R. Squibb & Sons—*T. S. Nichols,* President of the parent company, Olin Mathieson Chemical Corp., has informed all Squibb personnel that rumors about selling the Squibb Division are quite unfounded.

Sterling Drug has embarked on an expanded research program which will increase its scientific staff by 50% and bring Sterling for the first time into the field of biologicals, including vaccines. A number of biologicals for human and veterinary use have already been developed by the Sterling-Winthrop Research Institute and are ready for clinical trial.

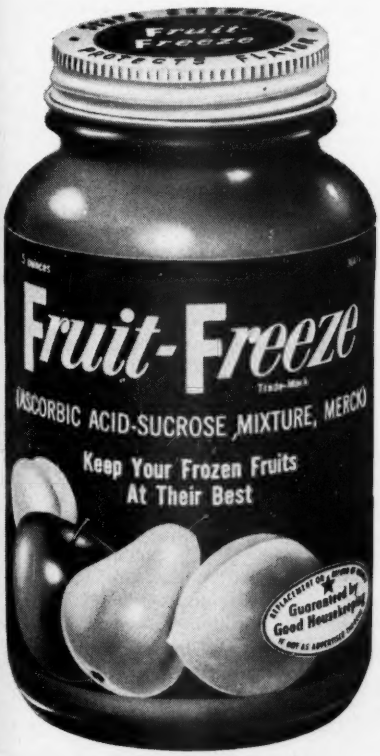
Hospital Pharmacy Residency

The announcement concerning the Orange County hospital pharmacy residency in the April issue, page 198, of THIS JOURNAL should have stated that the residency was offered in cooperation with the University of Southern California.

Last Year Sales
More Than Doubled

Fruit-Freeze®

Look For Bigger Gains in 1957



You Benefit from 4-Way Promotional Support for FRUIT-FREEZE:

1. **Extensive advertising.**
2. **Comprehensive sampling by freezer manufacturers (Admiral, Gibson, Norge, Whirlpool-Seeger).**
3. **Promotion to home economists and women's groups through direct sampling and national and local conventions.**
4. **Newspaper mats and point-of-purchase material are available to you free.**

FRUIT-FREEZE is sure to sell because it gives homemakers a simple, low-cost way to preserve fresh flavor and natural color in freezing fresh fruits and in preparing fresh-cut fruit for the table. FRUIT-FREEZE is packed for profitable turnover in one size only—5-ounce jar, 12 jars in attractive display carton.

Guaranteed by Good Housekeeping — **Carries Good Housekeeping seal**

Your cost
(1 display case—12 bottles) **$7.92**

Suggested selling price
@ 98¢ per bottle **11.76**

YOUR PROFIT $3.84

ORDER FROM YOUR WHOLESALER TODAY

Fruit-Freeze **– a product of MERCK**

MERCK & CO., INC.
Chemical Division
RAHWAY, NEW JERSEY

© Merck & Co., Inc.

BRANCHES

LOCAL BRANCHES

CHICAGO BRANCH members participating in panel on "The Prescription Department—Which Direction?" at joint April 17 Indianapolis Branch meeting are (1st row, l to r) Ike Arnove, Harold W. Pratt, William Morse; (2nd row) R. David Allen, Milton S. Prizant, and Howard G. Stephens.

Indianapolis Branch—Newly elected officers are *Lawrence Weaver*, President; *Benjamin A. Smith*, Vice President; *Mildred Weise*, Secretary-Treasurer; and *Philo Burrin*, Delegate.

New Orleans Branch—The April meeting featured a talk by *Sol B. Stern, Jr.*, M.D., Chief of the Diabetic Station of Tuoro Infirmary, on "Oral Diabetic Preparations."

Northern California Branch—*Dr. David Kendrick* of the University of California faculty, described the results of a recent survey made among California pharmacists at the February meeting.

Philadelphia Branch—*Dr. John Christian Krantz* of the University of Maryland Medical School presented a talk entitled "Anesthesia—Man's Redemption from Pain" at the May 9 meeting. Dr. Krantz was the recipient of the Branch's Scientific Achievement Award.

Puerto Rico Branch—*Dr. Robert A. Hardt*, Chairman of the Organizing Committee of the 4th Pan-American Congress of Pharmacy and Biochemistry, was guest speaker at the February meeting. His topic was "The Low 'High' Cost of Medication."

Southeast Texas Branch—A panel discussion on the question "Is Pharmacy Nationally Organized?" was presented at the April meeting by *Adela Schneider, Dean N. M. Ferguson, James McKinley, James McCarty*, and *Donald Chase*.

St. Louis Branch—Newly elected officers are: *George Horne*, President; *Dr. Floyd Hallett*, Vice President; and *Dr. James R. McCowan*, Secretary-Treasurer.

STUDENT BRANCHES

Alabama Polytechnic Institute—*Dr. G. Rheling*, state toxicologist, addressed the April meeting of the Branch on "The Role of the Toxicologist in Criminal Investigation."

Columbia University—On March 25, when the Branch was host to members of the St. John's, Fordham, and Brooklyn Branches, *James Echeandia* (Columbia), *John La Monte* (St. John's), *Allen Hirsch* (Fordham), and *Russell Hertz* (Brooklyn) gave talks on the theme "We Students Look at the Origins of Pharmacy Students." *Prof. Ignatius Bellafiore* of St. John's was moderator.

Drake University—*Roland L. Rasmusen*, representative of Parke-Davis, presented the film "Going Our Way" at the April meeting.

Duquesne University—Papers were presented at the April 4 and May 2 meetings by students *Geraldine Manzione, Mervin Kendall, Rafael Campos, Barry Hardenburg, Robert St. Miklossy, William Siegfried, Richard Smith* and *Leo Einloth*. *Charles Winek* and *Donald Telasha* acted as critics.

Ferris Institute—A program of colored slides and movies entitled "Showmanship in Pharmacy" was presented at the April 17 meeting by *Robert Healy, William Hardy* and *Roy Burton* of Owens-Illinois.

Fordham University—At the April meeting, *G. F. Norris*, Sales Manager of Ames Company, and *Jack Hollahan*, Ames medical representative, presented a program on "Clinitest and Related Products."

PHILADELPHIA BRANCH meeting has (from l to r) Theodore B. Wallace, Dr. Lewis C. Scheffey, Branch President William T. Fink, and Dean Linwood F. Tice peering at Philadelphia College of Pharmacy and Science museum exhibit.

George Washington University—*David Stiles*, Director of Market Development, Abbott Laboratories, spoke at the April 25 meeting on the Abbott Survey of Prescription Trends.

Howard College—Officers elected for 1957–58 are: *Richard Williams*, President; *James F. Green*, Vice President; *Shelby Feaster*, Secretary; *William Smith*, Treasurer; *Glen Kelley*, Historian; and *Henry Wilson*, Chaplain.

Idaho State College—The Upjohn film, "The Greatest Good," was shown at the April 2 meeting. Newly elected officers are: *Donald Novotny*, President; *William Mooring*, Vice President; *Carol Macheck*, Secretary; *Fumio Nukaya*, Treasurer; and *John Chan*, Corresponding Secretary.

Loyola University—The April meeting was devoted to a Squibb movie on prescription products. At the 20th annual banquet and dance on April 6, *Frank J. Tripoli* received an award for his contributions to the Branch and the School of Pharmacy, and *Eugene W. Vogt*, Louisiana State Board of Pharmacy Secretary, and *Joseph J. Biundo*, Past President of the Louisiana Pharmaceutical Association, were given honorary membership in the Student Branch. Newly elected officers are: *Carl A. Jeansonne*, President; *Ronald J. Haydel*, Vice President; *Noemie L. Breland*, Recording Secretary; *Donald L. Falcon*, Corresponding Secretary; *Bernard G. Keller, Jr.*, Treasurer; and *Richard A. Webre*, Historian.

Massachusetts College of Pharmacy—A panel discussion entitled "Pharmacy in Massachusetts, Present and Future" was the feature of the April meeting. Members of the panel were: *Philip McAuliffe*, pharmacy proprietor; *Leonard Tibbetts*, pharmacy proprietor; and Professors *Robert Walsh* and *Leslie Ohmart* of the faculty. *Dr. John Schermerhorn*, Faculty Adviser, was moderator. Newly elected officers are: *John Conlon*, President; *Bart Quirnole*, Vice President; *Janet Desjardins*,

(*Continued on page 376*)

a sound formula for expanding sales

each Capsule contains:

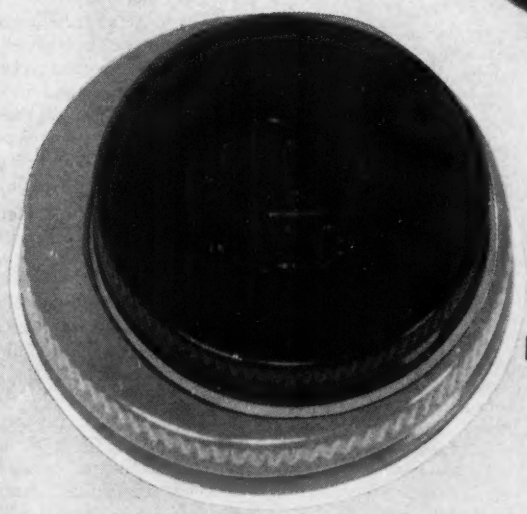
vitamins:

Vitamin B_{12} crystalline	5 mcg.
Vitamin B_2 (G) (riboflavin)	10 mg.
Vitamin B_6	2 mg.
Vitamin B_1 mononitrate	10 mg.
Nicotinamide (niacinamide)	100 mg.
Vitamin C (ascorbic acid)	150 mg.
Vitamin A	25,000 units
Vitamin D	1,000 units
Vitamin E	5 I.U.

minerals (as inorganic salts):

Iodine	0.15 mg.
Manganese	1.0 mg.
Cobalt	0.1 mg.
Potassium	5.0 mg.
Molybdenum	0.2 mg.
Iron	15.0 mg.
Copper	1.0 mg.
Zinc	1.5 mg.
Magnesium	6.0 mg.
Calcium	105.0 mg.
Phosphorus	80.0 mg.

available: MYADEC Capsules are supplied in bottles of 30, 100, 250, and 1,000.



Parke, Davis & Company DETROIT 32, MICHIGAN

50112

LETTERS

Let's Have Action

Sir:

All this talk concerning the supposedly new opportunities for registered pharmacists in the Armed Services is wonderful! But talk is its entire scope and has been for the past few years. Let us have some action of merit taken—something material done for our profession.

The pharmacy profession should be disturbed about the general treatment of those registered pharmacists who serve in the Armed Services. However, this need not be the case if they are recognized in regard to their profession. Pharmacy and those directly affected are losing face steadily—not gaining, as recent articles appearing in the various journals tend to show. Recognition of our profession by the Armed Services has not been accepted to date, even though in civilian health circles we are an integral professional member of the all-important "health team." Does this not warrant action to prevent further degradation to the pharmacy profession? Why do our professional rights continue to be abrogated to such an unfair degree?

Granted, some progress has been made, but not nearly enough. We realize you can't perform miracles overnight, but this same situation has existed for over 20 years. Let's direct a portion of our public relations program to Armed Services pharmacy, instead of devoting all of it to civilian pharmacy. It is certainly a known fact that there are now, and will continue to be, a vast number of registered pharmacists in the Armed Services who will eventually return to civilian pharmacy. Because a pharmacist is in the Armed Services for a period of two years, does that mean he is not worthy of the rights, privileges, and prestige that come with his calling during that time?

Pfc. Anthony R. Passeri—R.Ph., Pennsylvania, Ohio
Pvt. Thomas J. Jordan—R.Ph., Michigan
Pvt. Carl H. Schoendorf—R.Ph., Michigan
Pfc. Barry T. Helfer—R.Ph., New York, Maine
Sp/3 Thomas J. Ambrosio—R.Ph., New York, Colorado
Pfc. Robert Tendler—R.Ph., New York, Pennsylvania

Sir:

While I was in the Service I found the PRACTICAL PHARMACY EDITION of THE JOURNAL to be very helpful for "keeping in touch" and bringing me up to date on new products....

Congratulations to the ASSOCIATION for the fine work it is doing to improve the situation of the pharmacist in our military services.

William D. Brandenburg
Spokane, Wash.

Sir:

Tomorrow I go on active duty with the U.S. Air Force.... I received a commission as a Pharmacy Officer and a Medical Supply Officer by applying to the Surgeon General's Office. I realize that the availability of such a commission is largely due to the work of the APhA.

I am grateful and proud to belong to an organization as devoted to its members as the APhA. I hope that as a member of the APhA I can return some of the assistance it has given me since I started my college career.

Newton K. Higman
Romney, Ind.

Manual on Proprietary Names

Editor's Note: The abstracts below are taken from the scores of letters received. They are typical of the comments on Manual No. 102. Only one letter to date has been in disagreement with the concepts upon which the Manual is based.

"This is the best thing that has come out of your office in years. Well planned; well brought out. I am going to see that every M.D. in my territory has one of these on his desk."

George K. Charles
Parsons, Kans.

"Manual No. 102 is becoming most helpful to us as an educational aid. Our doctors and nurses have commented favorably on the distinctive appearance of the listings."

Jack C. Kirkland
Pharmacist-in-Charge
Memorial Medical Center
Williamson, W. Va.

"Your Manual No. 102 is invaluable. Truly, it is one of the best pamphlets to appear in print."

Carol Hachtmann
Libertyville, Ill.

"I really like Manual No. 102. Projects like this raise the prestige of APhA members and also make one proud to be a member."

Joseph Koerpel
San Francisco, Calif.

"I have found the Manual No. 102 very helpful on several occasions while doing marketing research work at Eli Lilly & Company."

Fred C. Hecker
Eli Lilly & Company
Indianapolis, Ind.

"Manual No. 102 was a 'god-send' for assisting my pharmaceutical apprentice this summer in her USP, NF, proprietary, etc., classification summary of prescriptions and preparations."

Shirley A. Winckler
Hartley, Iowa

"Just a short note to let you know how much not only APhA Manual No. 102 (*Proprietary Names of Official Drugs*) but monthly publications have meant to me. Mainly through them I have been able to keep abreast and even ahead of the latest drugs in my work as a hospital pharmacist."

John J. Memos
Milton, Mass.

"Manual No. 102 is a wonderful source of up-to-date pharmaceutical material. The pharmacist should not be without it, for it is orderly, prompt, and precise. I am happy to have the Manual at my fingertips."

L. L. White, Jr., R.Ph.
Norfolk, Va.

"We expect to send APhA Manual No. 102 to our active members, giving them information as to where additional copies may be obtained."

Thomas J. Golden
National Association of Chain Drug Stores
New York City

International Symposium

Messieur:

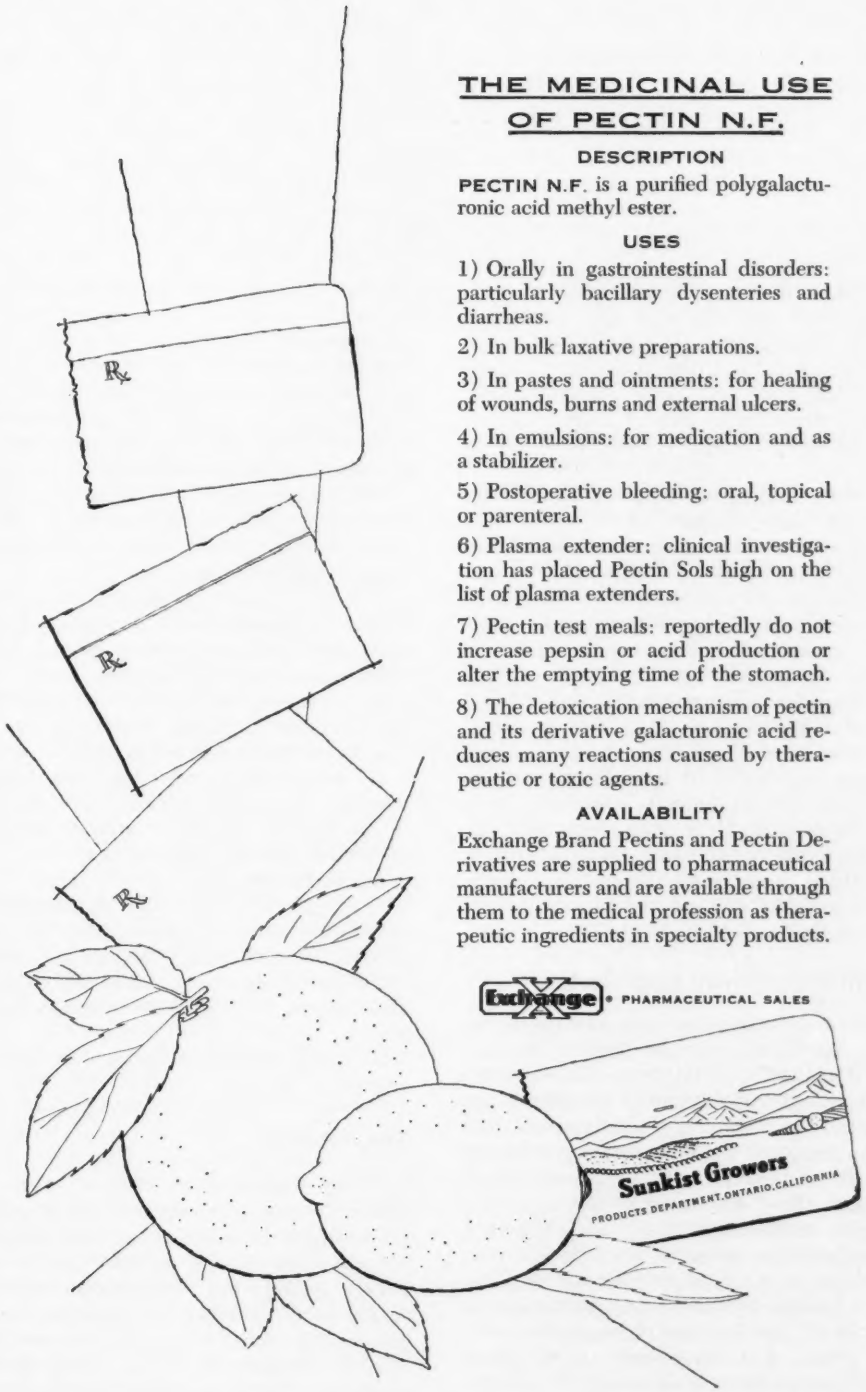
J'ai l'honneur de vous communiquer le programme préliminaire du "Symposium International sur le Curare et les Agents curarisants" qui se réunira à Rio de Janeiro en Août, 1957.

Je vous serai reconnaissant s'il vous est possible de lui assurer la plus large publicité en le portant à la connaissance de vos lecteurs dans l'un des prochains numéros du périodique que vous dirigez.

Avec mes vifs remerciements, je vous prie de recevoir, Messieurs, l'expression de mes sentiments distingués.

Pour le Comité Exécutif
Daniel Bovet

Editor's Note: Prof. Bovet refers to the International Symposium on Curare and Curarizing Substances organized by UNESCO, National Council of Research of Brazil, the Academy of Science of Brazil, and the University of Brazil, Rio de Janeiro. It will be held August 5–10, 1957, at the University under the patronage of the President of the United States of Brazil. The official languages will be English, French, Portuguese, and Spanish.



THE MEDICINAL USE OF PECTIN N.F.

DESCRIPTION

PECTIN N.F. is a purified polygalacturonic acid methyl ester.

USES

1) Orally in gastrointestinal disorders: particularly bacillary dysenteries and diarrheas.

2) In bulk laxative preparations.

3) In pastes and ointments: for healing of wounds, burns and external ulcers.

4) In emulsions: for medication and as a stabilizer.

5) Postoperative bleeding: oral, topical or parenteral.

6) Plasma extender: clinical investigation has placed Pectin Sols high on the list of plasma extenders.

7) Pectin test meals: reportedly do not increase pepsin or acid production or alter the emptying time of the stomach.

8) The detoxication mechanism of pectin and its derivative galacturonic acid reduces many reactions caused by therapeutic or toxic agents.

AVAILABILITY

Exchange Brand Pectins and Pectin Derivatives are supplied to pharmaceutical manufacturers and are available through them to the medical profession as therapeutic ingredients in specialty products.

Exchange • PHARMACEUTICAL SALES

EDITORIALS

PROFESSIONAL leadership was once again demonstrated when through the efforts of the AMERICAN PHARMACEUTICAL ASSOCIATION, in cooperation with numerous dermatologists and the American College of Apothecaries, the Food and Drug Administration was provided with abundant evidence for the retention of hydrocortisone preparations in the prescription legend category.

Because the open hearing on hydrocortisone ointments and lotions[1] held August 15–17, 1956, was precedent-setting, a final decision was not reached and made known until early in 1957. This was about one year after over-the-counter distribution of the hydrocortisone products was first contemplated. That there was need for an open hearing on the matter is recognized. The APhA warned Pharmacy against the Durham-Humphrey Amendment to the Federal Food, Drug, and Cosmetic Act (P.L. 215, approved Oct. 26, 1951) when it was before Congress, and had proper alterations been made in the bill prior to its passage, much of the current difficulty could have been avoided. The Food and Drug Administration has no choice; it must always function under whatever laws are currently in force, even though they might perhaps be more logically phrased and thus be less liable to misinterpretation.

Durham-Humphrey Legislation

The fundamental legislation serving as a basis for FDA operations should of course be designed to protect all of the 170,000,000 U.S. citizens. This includes not only well educated and discerning individuals but also the immature, the illiterate, the subnormal, and those with only a smattering of information concerning the use of drugs, or perhaps with no knowledge of drugs whatsoever, all of whom nevertheless possess the ability to make purchases on the advice of "friends."

In the final analysis, the consumer must be protected from harmful effects arising from the improper application of drugs to himself because of inadequate knowledge of the biological, chemical and physical characteristics of those drugs. For the proper use of potent drugs, first of all an accurate diagnosis of the disease or ailment must be made by a physician through logical analysis of symptoms and in many instances the application of laboratory and other techniques requiring skilled use of diagnostic aids and instruments. Secondly, the proper drug must be selected to combat a disease. And finally, that drug must be used properly, i.e., it must be used in the proper form and concentration, administered via the proper route, and taken at the proper time. Such diagnosis, prescribing, and use entails the application of professional skills and knowledge gained only through prolonged education, training, and extensive personal experience.

The proper use of *any* drug demands the application of some professional knowledge. Even practically nontoxic drugs have wrought serious consequences when employed improperly.

A large number of well-meaning persons believed that the consumer could be adequately protected from potentially dangerous drugs by the simple device of forming two mutually exclusive categories of all drugs:

1. Drugs which *must not bear* the legend "Caution: Federal Law prohibits dispensing without prescription," and which *need not* be sold on prescription; and

2. Drugs which *must bear* this legend and which *must* be sold only on prescription. Section 503 (b) (4) of the Federal Act places in this category three types of drugs intended for use by man:

(*a*) Habit-forming drugs.

(*b*) Drugs which are not safe for use except under the supervision of a practitioner licensed by law to administer such drugs because of their toxicity or other potentiality for harmful effect, or the method of their use, or the collateral measures necessary to their use.

(*c*) Drugs which are covered by new drug applications.

The Problem

Drugs designated as types 1, 2(*a*), and 2(*c*) are relatively easy to recognize, and no great difficulty is encountered in categorizing such drugs accordingly. On the other hand, drugs may not so readily be categorized as type 2(*b*) because the degree of toxicity or degree of potentiality for harmful effect necessary to place drugs in this category has never been clearly stated. Because there has never been published a clear-cut definition of what constitutes a drug which must be administered under the supervision of a duly licensed practitioner, there is always present the likelihood that some drugs classified as legend drugs may be safe for distribution other than on prescription and that some drugs classified as nonlegend drugs may

[1] THIS JOURNAL, 17, 584–590(1956).

not be safe for distribution without medical supervision.

In any consideration of the potency of a toxic or hazardous material, the actual effect is *relative* and depends on the nature of the material, the rapidity with which the material comes into contact with the various tissues of the body (concentration and quantity), the route of entry into the body, the condition of the body itself, the specific types of reactions produced in and on the body, the frequency of use, the length of time the drug is used, and other factors. Each particular situation of a certain batch of a given material contacting a certain specific individual is unique, and to generalize concerning degree of hazard is extremely difficult. It is obviously wrong, therefore, to believe in the all-or-none theory presently enforced by legislation, i.e., a drug must be distributed by all concerned through the prescription legend principle, or a drug must be distributed by all concerned freely to anyone who wishes to purchase it.

The fact that there had to be a hearing to solve the hydrocortisone problem is an indication that some change should be made in the law to categorize more clearly and satisfactorily all drugs so that there will be no question as to how all of them must be handled. On May 1, 1951, the Honorable Oscar R. Ewing, Federal Security Administrator, stated the problem clearly before the House Committee on Interstate and Foreign Commerce:

> "The problem as I see it is to strike the best balance we can between the need for maximum protection of consumers from abusive practices and the need to minimize the impediment to the legitimate distribution and sale of useful drugs. . . .Our best efforts to devise in our existing regulations a general definition of prescription drugs leaves a broad twilight zone in which no one can know with certainty into which classification a given drug will fall."

Suggested Solution

It is obvious that criteria should be carefully established for more than two major classes of drugs in order to avoid the present "black or white" situation which is not practicable. The three following classes of drugs constitute one possible series of categories which are mutually exclusive and yet all-inclusive. Some similar classification should be much more satisfactory than the one presently in existence.

Class I—Drugs sold only on prescription. These would include narcotics, barbiturates, amphetamines, and other drugs classified as "dangerous" and included in an official list of habit-forming or highly lethal drugs (minimum lethal dose for humans 1 mg. per Kg. or less). Also listed in this category would be drugs with a low therapeutic index (the minimum lethal dose for humans 10 or less times the usual therapeutic dose), as well as those "new drugs" which have been in use for less than 10 years, and those drugs requiring parenteral administration or close professional supervision by a physician.

Class II—Drugs which require the signature of the purchaser, who must be identified beyond any question of doubt by a registered pharmacist, and which may be sold without a prescription but only under the immediate supervision of a duly licensed pharmacist who must be required to caution the purchaser regarding the dangers of misuse. In this category would belong exempt preparations containing narcotics such as paregoric, potent poisons (minimum lethal dose for humans 5 mg. per Kg. or less) such as strychnine, cyanides, hydrocyanic acid, arsenic trioxide, and other specifically named items for which records other than prescriptions shall be kept.

Class III—Drugs sold in pharmacies without prescription. These include household remedies such as milk of magnesia, castor oil, aspirin, mineral oil, petrolatum, zinc ointment, boric acid, camphorated oil, proprietary preparations, and any other drugs not listed in either Class I or Class II.

Other Recommendations

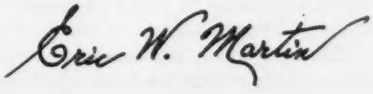
From time to time during the past few years, a number of suggestions regarding the Durham-Humphrey Amendment have been made by leaders in Pharmacy, but for some reason no positive action has resulted. Obviously, the categories outlined above are not meant to be the final answer to the problem, but they are presented here merely to indicate one route which may lead to a solution. The arbitrary dividing lines for what constitutes a "highly lethal drug," a "low therapeutic index," or a "potent poison" certainly require additional careful study. The figures given above are only first approximations and perhaps need modification.

The major point which must be driven home is that all drugs should be distributed according to a workable formula which will *protect the public* without unduly restricting the *free flow of useful medication.* It is almost superfluous to point out that *every highly motivated person in the health field who has the welfare of his fellow man at heart believes that all drugs should be purchased in pharmacies.* This is a basic concept which has proved to be sound.

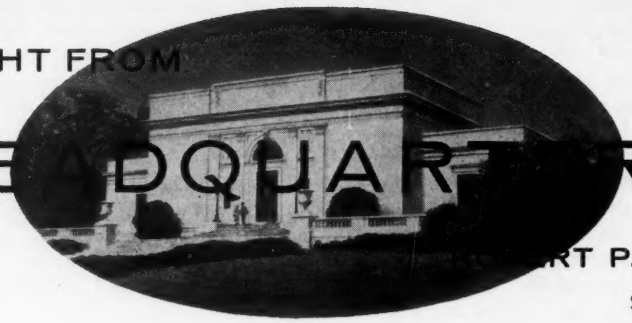
No other member of society through formal study or acquired experience is capable of handling and distributing drugs with the knowledge and skill possessed by the average pharmacist. During his indoctrination he is taught certain moral obligations and legal responsibilities, and he is trained for accurate and efficient professional practice under highly qualified teachers for periods ranging from 4 to 6 years. Well-established principles of pharmaceutical practice have been developed through centuries to make ever more certain that the public health and welfare are safeguarded. It is with these thoughts in mind that the suggested modifications of current legislation have been stated in the given phraseology.

The handling of all drugs by pharmacists in pharmacies in a manner similar to that suggested will:

1. Largely prevent the lay public from harming themselves through indiscriminate self-medication.
2. Enable all agencies and groups concerned to make sounder decisions concerning the manner in which all drugs should be distributed.
3. Prevent the occurrence of serious errors now being made by grocers and other merchants who attempt to sell drugs without adequate knowledge and training.



STRAIGHT FROM



HEADQUARTERS

ROBERT P. FISCHELIS,
SECRETARY

Message to the Graduates of 1957

The cover of this issue of the JOURNAL is dedicated to the graduates of our 75 accredited colleges of pharmacy, most of whom will receive their coveted diplomas this month. The profession of pharmacy awaits the 1957 graduates in the expectation that they will be able, in due course, to take their place in the ever-changing situation which confronts all those who are engaged in providing services that contribute to better medical care.

The young graduates in turn are wondering what to expect when they begin to take their place in the pharmaceutical world and just what kind of careers, emoluments, and opportunities for service lie ahead.

It is quite certain that those who have received their college training in the past four or five years come better prepared to meet the problems confronting the professions dealing with the public health than any previous group of pharmacy graduates. This is so because curricula in colleges of pharmacy have been adjusted to meet the changing functions of pharmacy and especially because there has been recognition of the fact that people who are expecting to devote their lives to any phase of medical care require a cultural background which prepares men and women to understand the world in which they are to function and the people whom they are expected to serve.

Many sincere commencement orators will expound on the quality and diversity of opportunities available to the pharmacy graduates of 1957. They will point out that the pharmaceutical industry, hospital pharmacy, retail pharmacy, and, to a lesser extent, organization work, law enforcement, editorial and administrative work offer opportunities unlimited. They will point to the higher remuneration which a relative scarcity of pharmacists in certain places has brought about, and they will point to the opportunities for becoming independent operators in the business or professional phases of pharmacy.

What many of the commencement orators will probably fail to mention is that this profession along with medicine and the so-called paramedical professions faces certain grave problems which must be recognized because they are bound to affect the future of individuals as well as the professions of which they are about to become a part.

The fact that health has become just as important to the average citizen as food, clothing, and shelter, and the further fact that tremendous strides have been made and are imminent in the field of diagnosis and treatment of disease may permanently affect the future of those who have prepared themselves to give essential health services.

The definite trend in the direction of simplifying the distribution of medical care services through concentration of these services in medical centers is something to be reckoned with, whether one practices medicine, dentistry, or pharmacy.

The public demand for more and better medical care at costs which all can afford is an ever-increasing challenge to those who have anything to do with providing health services.

The tremendous strides in the development of new drugs to meet the correction of specific causes or the elimination of the ravages of disease have already wrought great changes in the production and dispensing of drugs.

The advent of more complete education of the public on health matters and the regulatory procedures advocated by government agencies, reinforced by federal and state legislation and the decisions of the courts, tend to make any type of retail establishment, especially the popular all-inclusive shopping centers, a competitor of the retail pharmacy.

To what extent have our graduates been prepared to meet these new conditions and who will guide them when they meet the new and changing conditions face to face as they develop their careers?

Probably the best advice that will be given by commencement orators on the subject is the hackneyed expression that commencement, as its name implies, must be looked upon as the beginning of the real education and experience of the college graduate and that from now on he is more or less on his own; that he must budget his time and resources to keep abreast of the rapid developments in the technical aspects of medicine and pharmacy, and—equally important—that he must observe and meet the social trends which point significantly to the future.

One way of accomplishing all this is, of course, to belong to organizations which are able through their staffs and publications to bring continuing information to the individual member. Another method is to keep on studying, even though there is no formal compulsion to earn credits toward a degree. This is made possible through continuation courses, seminars, and conferences which are as good as the members of the profession,

working with colleges of pharmacy and state and national associations, care to make them.

It is the personal contact which the pharmacist makes daily with the public that determines the place he will occupy in the esteem of his community. If the people acquire respect for their pharmacist because of what he means to them professionally, he need not fear the competition of the non-professional interloper.

In this connection it would be wise for the 1957 graduate to recognize what has been so well stated by President MacCartney in his address to our Convention in New York last month, namely, that "you do not legislate a profession into being, you live it into being." This statement was made apropos of recent efforts in a number of states to have pharmacy declared a profession by act of the state legislature.

Operation Bootstrap

In his inaugural address President Joseph B. Burt, in discussing methods of increasing membership in the AMERICAN PHARMACEUTICAL ASSOCIATION, spoke as follows:

"I wish to suggest a very simple and inexpensive plan for doubling our membership, which for want of a better name, may be called 'Operation Bootstrap.' It is simply this: If every member of the ASSOCIATION will assume the responsibility of adding one new member to our roster, that is all that is required. As each application for membership must be signed by two sponsors, all that each of us needs to do is to make certain that our own endorsement appears on two applications. Is this too much to ask?

"May I ask, as a special favor, that each of you make a sincere effort to meet your quota not later than July 1. If each of you will accept this responsibility, a tremendous impetus to the growth and future activity of this ASSOCIATION will be assured."

The Committee on Resolutions, after considering President Burt's recommendation, offered the following resolution: "Resolved, that the recommendation of President-Elect Burt for implementing the increase of membership by enlisting the support of each member in securing at least one other member, be approved and referred to the Membership Committee for implementation."

This resolution was unanimously adopted by the House of Delegates, and it is now incumbent upon us to carry out the intent of the resolution.

In the very near future, each member of the AMERICAN PHARMACEUTICAL ASSOCIATION will receive application blanks for the purpose of participating in "Operation Bootstrap." When you receive your application, will you please immediately contact someone who should be a member of the AMERICAN PHARMACEUTICAL ASSOCIATION, and ask that individual to join. The application with the first year's dues should be sent to the AMERICAN PHARMACEUTICAL ASSOCIATION office as soon as possible and, of course, preferably before July 1, so that this campaign which President Burt has suggested will be under way.

This is one time when every member of the ASSOCIATION can make a very substantial contribution to its progress without very much effort. Your cooperation will be greatly appreciated.

A Tribute to Elmer Bobst

On June 7, the Trustees of Columbia University College of Pharmacy honored Elmer H. Bobst in recognition of his fifty years of service to pharmacy and public health. Mr. Bobst began his career in pharmacy as an apprentice in a retail establishment and later became identified with the pharmaceutical industry of which he has been a leader for many years. Viewed from any material angle, Mr. Bobst's industrial accomplishments entitle him to the encomiums which have recently been heaped upon him in the popular, the technical, and the professional press. But the qualities which have made this man really outstanding among his fellows go far beyond those responsible for his material success, great though that may be.

Pharmacy can take considerable pride in the active part that Mr. Bobst has played in developing voluntary health organizations. Not only has he lent his material resources to the success of the Cancer Crusade, but the imprint of his dynamic personality may be found in the records of committees and conferences responsible for the drive to carry on research in this field. The farsighted view on the proper procedure for public education on the value of research, exhibited by Elmer Bobst and his co-workers, has sustained the efforts of the scientists who have been instrumental in penetrating the barriers to the conquest of cancer which are now gradually disappearing.

It was largely through the efforts of Elmer Bobst that the American Cancer Society some years ago joined the AMERICAN PHARMACEUTICAL ASSOCIATION in dedicating National Pharmacy Week to the Cancer Crusade and working out a continuing program of education through retail pharmacies on early recognition and treatment of cancer.

We were glad to join in this effort and we are now glad to join in a well-deserved tribute to a man of vision whose start on a career of high success was made in a small independent retail pharmacy.

Convention Resolutions

Many of the resolutions and recommendations presented to the House of Delegates at the New York meeting last month were the subject of considerable debate. The subjects covered by the resolutions in many instances led to presentation of factual information and recording of experiences of those who are actively engaged in the practice of pharmacy in various parts of the country.

The transcript of the discussions is being studied carefully so that the wording of the resolutions may be interpreted in line with the comment on the floor of the House of Delegates.

In the May issue of the JOURNAL, it was indicated that the full text of the New York Convention resolutions with procedure for their implementation, as directed by the Council, would be published in the June issue. However, it has been found necessary to postpone publication of the resolutions until the July issue in order to accompany them with more complete information as to their implementation.

THE modern pharmacist occupies a rather strange position in today's professional world—stranger, perhaps, than the position of any professional group now operating in America.

Public Relations fo

In actuality, he is an important member of the medical science team. His training is commensurate with that of other members. He works at the research level, the manufacturing level, and of course the retail level. Without the science of pharmacy, the physicians, bio-chemists, medical physicists, nurses, and others could not function—or if they could, it would be only at a very primitive, witch doctor stage. It is almost impossible to conceive of a world without anesthesia, antiseptics, analgesics, antitoxins, and the wide spectrum of so-called miracle drugs, to mention but a few of the pharmaceutical developments of the past century.

Who Knows About It?

The history of pharmacy is one of amazing achievement. But the question is, who knows about it? The general public knows the other professions by certain symbols and signs. The doctor, of course, has his little black bag. The lawyer has his brief case and his book-lined library. The engineer has his transit. The chemist has his test tubes, and the nurse has her cap and thermometer.

Every profession you can name has some sort of symbol. It generates a certain picture in the public's mind. Members of all these professions enjoy a high degree of prestige, of status, of superior standing—that is, all but the retail pharmacist. He is the only professional man who must strive to maintain his dignity and prestige behind a display of hot water bottles, cosmetics, toilet goods, and plastic cameras marked down from $1.98.

It is true that he has the privilege of wearing a white jacket. But, unfortunately, anyone can do the same. And so you turn on your TV any night to see some Hollywood "ham," in a borrowed jacket, and with a rented microscope at his side, discussing the "scientific proof" of the efficacy of someone's laxative or weight reducer.

This sort of thing obviously does not increase the pharmacist's stature. It is not helping to destroy the concept of the pharmacist as a man who takes some pills off the shelf and hands them to the customer at exorbitant prices. Not everyone thinks this of course. But many do. And this is true despite the fact that some pharmacies are devoted exclusively to the handling of prescriptions and that an appreciable number of pharmacists are engaged in other than retail pursuits.

Now, will a carefully-integrated public relations effort get the pharmacists out of the professional basement? Yes, it will—and it will accomplish more, too. But there must be an understanding of its functions and a clear concept of its goals.

Public Relations Objectives

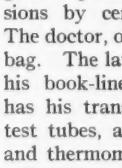
As Mr. Ballard[1] has suggested, public relations is not mere publicity. Publicity is one of the tools of public relations—and only one. In any profession—or in any business—the first function of public relations is to *develop and maintain good will.* This it does by *communicating* its aims, its objectives, its thinking, and its attitudes to the public with which it deals. As individuals, pharmacists become known, appreciated, and liked because people approve their attitudes and personality. As a group, pharmacists do the same thing—perhaps more consciously—by projecting their group personality as completely and favorably as they can.

A second function of public relations is to *increase the status of the members of a professional group.* For the foreseeable future it may not be possible to separate the pharmacy department from the hot water bottle and cosmetic departments to an appreciable degree. But there are ways of winning greater public appreciation, which are considered below.

The third function of public relations is to *build up insurance values against attack.* A group that is well-liked, appreciated, understood, and powerful in its own right is not as likely to be the target for discriminatory taxes, for example. Nor would some uninformed legislators attempt unwise controls. Conversely, there would be less difficulty in obtaining necessary or beneficial laws. Or, conceivably, some reporter or journalist for *Confidential* magazine would be deterred from an "exposé" of the profession. There is not much danger now, but this is not beyond the realm of possibility.

There is a fourth function, but it does not apply to retail pharmacists as a group. That function is the *obtaining of more business,* which is an individual problem in retail pharmacy. The group as a whole gets all the prescriptions which are filled; there are just so many written every day, and that is all.

Now how do you go about achieving these goals and performing these functions? Dispensing pharmacists—the members of the one segment of pharmacy best known to the public—are mainly concerned with three groups: the physicians, the physicians' patients, and the general public. Look at just a few of the public relations tools that can be used to cultivate these fields.



MICHEL LIPMAN, whose background is in the law field, is a partner in the public relations firm of Clayre and Michel Lipman, San Francisco. The firm counsels associations, other firms, and individuals; and writes copy for radio and TV scripts, newspaper articles, booklets, and house organs. "The Story of Health," a daily radio show now under option to CBS, is authenticated by the San Francisco Medical Society and tells in story form what is being done today in the medical sciences. Another daily radio program "Point of Law" received an award from the Freedoms Foundation Radio Advertising Bureau.

* Presented at a recent dinner meeting of the Northern California Chapter of the AMERICAN PHARMACEUTICAL ASSOCIATION.

[1] Berton J. Ballard, Director of Public Relations for the State Bar of California, was co-speaker at the meeting.

for the PHARMACIST

by Michel Lipman

Achieving PR Goals

First consider the physicians. Apart from the fact that these professional colleagues are given credit for much of the work and many of the discoveries of pharmacists, relations are pretty good. At least there is a proper understanding of each other's functions and abilities. These relations might be improved by more joint meetings of the two groups. Then, everyone gets a change to become acquainted under pleasant and convivial circumstances.

Next, consider the physician's patient. He comes into the office and waits—and most of the time his thoughts run about like this: "I hope he doesn't hurt me. I hope this isn't anything serious. I hope it doesn't cost too much. I hope he doesn't prescribe a million dollars worth of medicine." Here is a person who is anxious and worried—and not without justification either. But here is an opportunity to reassure, to inform, and to win a friend.

Suppose that on the magazine table, standing out from the 1919 copies of *National Geographic* and 1943 issues of *Liberty*, there is a bright, attractive brochure titled, let us say, "Medicine: 1957." The patient picks it up and looks. It is a well-illustrated picture-story of the medical team behind his doctor. This has meaning to him. Here he is introduced to the chemist, the biologist, the researchers, the physicists, the bacteriologists—and, of course, the pharmacists. Another time he might not be interested. But right now the pharmacist has about the most receptive, most appreciative audience in the world! Most physicians, I am quite sure, would gladly cooperate to the extent of placing brochures of this sort on their waiting room tables.

Consider another rich possibility. The patient has seen the doctor and left the office. His fears have been quieted to some extent. But he is definitely sick. And in his hand is a small slip of paper with some mysterious markings on it. He takes it to a nearby pharmacy, and his thoughts, obviously, are on his own illness or that of his wife or children. The pharmacist hands him a small bottle. And what does he say? Generally, "Here you are, sir; that will be $7.50." Well, that is not bad. It is an ordinary businesss transaction, like thousands of others. It is what the patient expected.

The Human Touch

But suppose the pharmacist, handing him the bottle, says something else. Suppose he says, "That's pretty good medicine you have there, Mr. Jones," Mr. Jones isn't quite human if he doesn't respond. "Is that so? What is it?" And that gives the pharmacist a chance to explain the substance, build confidence in the industry, the product, and the several health professions, including his own. He should not doubt for a moment that his expressed interest in that patient and his problem will make a friend for life.

The pharmacist may say he is rushed sometimes, too busy to hold a conversation. Then he should have a series of leaflets on hand. They can describe the type of drug the patient is getting, if not the particular item. Here is where the pharmacist can put over a strong message about comparative costs—that a few years ago, pneumonia would have laid the patient up for three weeks but that today he is in bed only a short time. The leaflets can be small, inexpensive, and highly informative. They should not only be medically accurate, but written for easy, pleasant reading. They will do a great deal toward building confidence in the pharmacist and increasing his status.

Reaching the Public

Methods of reaching the general public, despite its importance, will only be enumerated briefly. One is through speaking in public. There are literally hundreds of service clubs, women's clubs, church groups, and others in the area where the pharmacist practices. Some of these groups are actually desperate for speakers. The author knows this from the relative ease with which he placed some of his own Public Relations clients. The pharmacist can do the same. What will he talk about? Parent-Teacher Association groups probably would like to hear about careers in the health sciences. This presents a wonderful opportunity to talk about qualifications and the courses of study. Other groups might want to hear about the latest pharmaceutical developments. If possible, motion pictures showing the manufacture of certain modern drugs might be added. These can be obtained from the large pharmaceutical houses.

Mass media should not be overlooked—the newspapers, magazines, television stations, and radio. Many organizations have run into trouble trying to get their materials published or broadcast. Consequently, they feel this important tool of communications is closed to them. That is not actually the case. Editors and program directors will use outside material, if it is fresh, newsworthy, and of professional caliber. This is especially true of the healing arts. It requires a certain amount of skill and imagination. But it can be done.

Now how do pharmacists actually set up and operate a public relations program? It would take several hours to answer that question—and there would still be problems unanswered. Such things as opinion studies, and motivation studies might be needed. But by and large pharmacists might proceed by borrowing programs that have proved their value in other fields, modifying these to suit present conditions, establishing a permanent committee to handle long range planning, and retaining public relations counsel to handle the short-range, immediate projects, most of which will require professional handling. If these things are done, the prestige, security, and public favor of the pharmaceutical profession will be greatly enhanced.

Whether there is a shortage of pharmacists in this country depends upon the viewpoint, according to this forthright discussion by a college professor

Supply and Demand of Pharmacists

by Wallace F White

Is there a shortage of pharmacists in the United States at present? There is considerable disagreement on this subject among various groups of the profession, but many are wondering about the future. Many of us in the academic field are thinking these days about the consequences in the immediate future of extending the pharmacy curriculum from 4 to 5 or more years upon the supply of new pharmacists.

In some schools at present there are many applicants for admission, while in others there are few. Some schools have entrance requirements aimed at eliminating poor academic risks while others take all who apply for admission. With universal pre-pharmacy training in the offing there will be greater opportunity for selection than in the past, but any degree of selection will very likely have a lowering effect upon the supply of pharmacists.

Proprietors of pharmacies in many localities have for some time been audibly acclaiming a shortage on the basis of difficulty in recruiting new employees. State boards of pharmacy have been continually involved in matters of supply and demand within their respective states due to the constant migration of pharmacists from one state to another. Some state boards have had too many applicants and others too few applicants.

Dr. WALLACE F. WHITE has been Professor of Pharmacology, University of Minnesota College of Pharmacy since 1949. Prior to that he was a member of the faculty of Connecticut College of Pharmacy (which became the University of Connecticut College of Pharmacy) from 1937 to 1949, where he taught biological subjects. Dr. White attended the Indianapolis College of Pharmacy, Butler University (B.S. in Zoology), The State University of Iowa (M.S. in Zoology), Indiana University, and finally Yale University where he received his Ph.D. in Pharmacology in 1949. Dr. White received a Certificate of Honorable Mention in the Ebert Prize Awards in 1953.

In order to understand the situation in respect to supply and demand better it was thought that census figures would be helpful. The total number of retail pharmacies and hospital pharmacies combined for each state[1] have been related to the 1950 census giving average state population per pharmacy. These data will give some idea of the geographical demand for pharmacists in the United States. As accurate an estimate for supply of new pharmacists is not available. One of the better sources of information on this matter of supply, however, is the list of June 1956 graduates from Colleges of Pharmacy which appeared in *Drug Topics*.[2] This count is not completely accurate because some of the students listed very likely failed to be graduated or failed to pass the examination for licensure, but this estimate of supply of pharmacists appealed to me as being more reliable than any in print. In order to establish a ratio so that estimates of supply and demand would be comparable, the 1950 census figures per state were also used in the calculation of supply of new pharmacists. Figure 1 is a compilation of the data showing geographical sources of supply of new pharmacists and relative population density per pharmacy in each state as a basis for estimating demand for pharmacists.

Migration of Pharmacists

Only broad generalizations are applicable from the data because we have not taken into consideration the number of pharmacists already employed in each state and because the number of pharmacy students graduated each year is not a fixed figure. It is fairly obvious, however, from Fig. 1 that a considerable migration of pharmacists must of necessity take place from one state to another due to the unequal distribution of colleges in respect to population density. Therefore the matter of reciprocity between states looms as a vital factor in maintaining any semblance of balance between supply and demand throughout the country. There is greater cause for migration out of some states than others and also certain states offer more opportunity than others for new recruits from other states. States without colleges of pharmacy such as Nevada, Maine, New Hampshire, and Vermont must depend upon outside sources for all their recruits. Densely populated states like Illinois must also look elsewhere for pharmacy graduates, since the one college of pharmacy in Illinois is not able to meet the demand.

Reciprocal Registrations

Now let us compare the data for reciprocal registrations which were reported for the year July 1, 1954–July 1, 1955,[3] with the need for migration as indicated by the imbalance between supply and demand of pharmacists geographically as indicated in Fig. 1. Table I lists states in which reciprocal registrations were high and those in which reciprocal registrations were low, indicating extensive and little or no migration, respectively.

Only about one third of the states having a large number of reciprocal registrations have a relative shortage of pharmacy graduates. On the other hand several states in which there was a short supply of 1956 graduates had a considerable loss of pharmacists through reciprocity or had a relatively small proportion of recruits from other states. Apparently pharmacists who migrate have other reasons in mind than attempting to

[1] *Proceedings of the National Association of Boards of Pharmacy* (1955).

[2] *Drug Topics*, *100*, No. 8, 22–34 (April 16, 1956).

[3] *Proceedings of the National Association of Boards of Pharmacy* 214–228(1955).

equalize supply and demand in the United States. Migration may be just across a state border or across country. Within the eight districts into which the country is divided in reference to colleges and boards of pharmacy, a certain amount of interchange of pharmacists between states is expected. Table II groups the districts into those having above and below average number of 1956 pharmacy graduates relative to population.

The northwestern and north central parts of the country seem to be carrying the greatest burden in educating pharmacists while the southern states lag behind, and the central portion of the country from coast to coast seems to be average in respect to supplying pharmacists.

Current Demand for Pharmacists

The number of retail and hospital pharmacies per state, which gives an estimate of demand for pharmacists, varies from a high of one pharmacy per 1,840 persons in Nevada to one pharmacy per 5,400 persons in West Virginia. Except for California the states having a high ratio of population per store are in the south. On the contrary, a geographical pattern is not applicable in states having a greater number of stores per population, all districts being represented in this category.

Is it possible to come to any conclusion about the prospects for a satisfactory balance between supply and demand in pharmacy? In order to reach a decision it is necessary to consider whose viewpoint you wish to take, whether it be that of the chain store employer looking for clerks in an area like Illinois, the graduate from North Dakota who is competing with classmates for a job in his home town, or the one-man-store owner looking for a relief man while he takes a fishing trip—to mention only a few. There were 52,802 pharmacies and just under 100,000 registered pharmacists employed in them in 1955. Should these numbers be larger or smaller? In a small town there may be 4 average sized pharmacies competing with one another for the business of the community. Is there any reason why the health needs of this community could not be served as well by two stores operated by the same number of pharmacists or even fewer pharmacists with an appreciable reduction in overhead expenses? In some smaller communities there are no pharmacists, no dentists, and no physicians. The reason has little or nothing to do with supply and demand but is based primarily upon the fact that professionally trained men and their families find such small communities unattractive places in which to live.

College Motivation

The colleges of pharmacy are dedicated to supplying pharmacists to the profession. Not only does the profession rely upon the colleges for quantity but also for quality of pharmacists. Many of us feel that quality is a much more important consideration than mere numbers. In the teaching field we will all agree, I believe, that there has always been a shortage of outstanding men and women in pharmacy. I am certain other professions share with pharmacy this desire for high quality recruits. With the advent of pre-pharmacy training there is opportunity

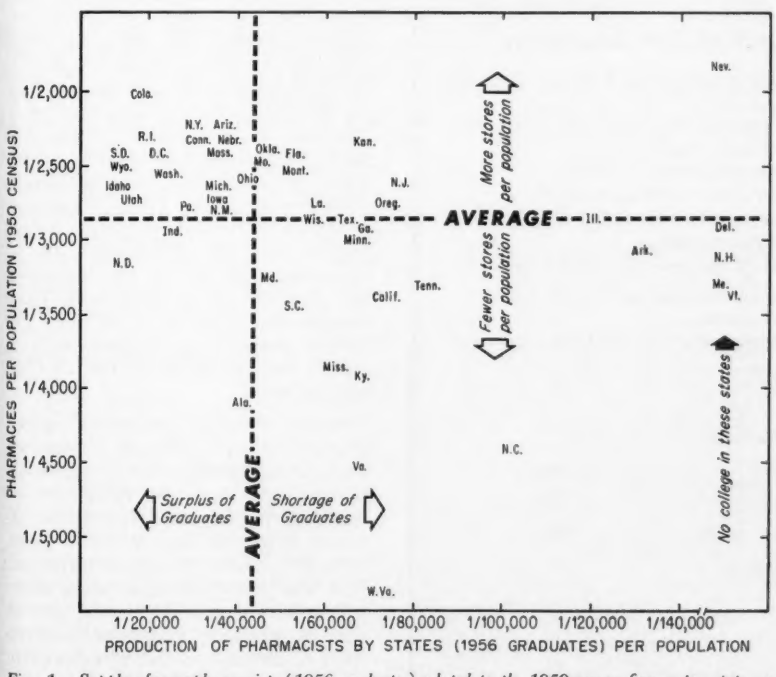


Fig. 1. Supply of new pharmacists (1956 graduates) related to the 1950 census figures per state as ordinates and the average population per pharmacy (number of stores in 1955) by states as abscissas.

SUMMARY

1. Colleges are distributed geographically more or less by states in many cases not proportional to population upon which demand for pharmacists is based.

2. In order to have an equitable distribution of pharmacists in all states a considerable amount of migration is necessary chiefly in the direction from North to South.

3. Migration to many states apparently is done without consideration for equilibrium between supply and demand.

4. The colleges of pharmacy which are exclusively responsible for supply are concerned not only with quantity but with quality. The recent adoption of an extended program in pharmacy attests to this concern.

5. The pre-pharmacy qualifying period affords opportunity for some screening which should improve quality. There will be a temporary curtailment in supply during the transition period when conversion from 4- to 5-year programs will take place.

6. There seems to be no need for new colleges because all colleges are not operating at optimum capacity, and there is no evidence that an actual shortage of pharmacists exists. Some colleges perhaps are motivated by numbers disproportionately since tuition income is more vital for successful operation in these colleges.

7. Whether there is a shortage of pharmacists depends upon viewpoint. In unattractive rural communities there will always be a shortage regardless of supply. In the larger cities employers looking for low salary clerks may find a shortage, but young graduates looking for ideal locations to establish new stores may find the demand not so ample.

8. A healthy situation in pharmacy will exist as long as supply does not quite catch up with demand.

for more selection than occurs at present with improvement in quality. In the 1–4 year or 2–3 year programs, students must satisfactorily complete required college courses for 1 or 2 years prior to entering a college of pharmacy. This additional qualifying period which is interposed between high school and the professional college will tend to improve quality but will probably have at least a temporary depressing effect upon numbers of students enrolled in the colleges of pharmacy. Those colleges whose actions have been motivated by other factors and who are considering a 5-year integrated program will not derive the benefit of selection available in colleges having a pre-pharmacy qualifying period.

Table I—States Having High and Low Reciprocal Registrations

High	Low
Arizona 54 (51)*	New York 0 (563)
New Mexico 40 (48)	California 0 (362)
Texas 165 (288)	Florida 3 (254)
Wyoming 13 (25)	North Dakota 1 (37)
Louisiana 45 (83)	West Virginia 1 (35)
Maryland 62 (117)	South Dakota 1 (29)
Iowa 28 (77)	Nebraska 3 (55)
Oregon 36 (92)	Minnesota 5 (82)
Washington 35 (118)	Pennsylvania 20 (329)
Colorado 44 (153)	
District of Columbia 39 (136)	
Illinois 70 (293)	
Wisconsin 19 (94)	

* Reciprocal registrations July 1, 1954–July 1, 1955, with total number of licenses issued for the calendar year 1954 in parentheses.

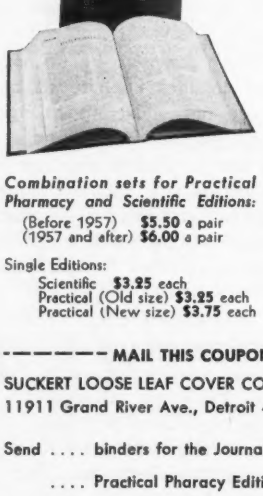
Table II—Supply of Pharmacy Graduates Within Geographic Districts

Above Average			Below Average		
Region	*District*	*Grads. per Pop.*	*Region*	*District*	*Grads. per Pop.*
Northwestern States	7	1/28,700	Southeastern States	3	1/62,200
North Central States	5	1/32,400	South Central States	6	1/54,000
Eastern States	2	1/36,300	Midwestern States	4	1/49,700
New England States	1	1/40,500	Western States	8	1/47,300

Quality of Instruction

Also the quality of instruction and facilities for teaching and research vary among the 75 or so colleges of pharmacy in the country due to differences in amount of subsidization of education by appropriations and endowments. Many colleges of pharmacy of necessity must curb educational expenditures to conform to their limited incomes. The expenditures of a few colleges are limited solely to income from tuition. Schools of this class in particular will probably have less to offer and will naturally place more emphasis upon enrollment figures than upon the competence of entering students as judged by previous scholastic achievement. Some of the colleges whose interests are focused on tuition income may be supplying pharmacy graduates beyond the needs of their own states not out of generosity but due to financial opportunism. It is decidedly not to the best interests of all the various facets of the profession of Pharmacy that some of the better equipped and staffed Colleges of Pharmacy are not getting their full complement of students, while some of the weaker colleges are full to capacity. This is a very difficult thing to control, but pharmacy should frown upon opportunist colleges taking advantage of a situation of low supply by attracting students in excessive numbers into their folds by maintaining low standards while competitors are raising standards. It should be pointed out that a reduction in supply of pharmacists will of necessity occur during the transition period when the majority of colleges convert from a 4-year course to an extended course of studies, because there will be one year without graduates for each college.

There are other important factors involved in the supply and demand of pharmacists which have not been mentioned, and one involves income of pharmacists. Supply and demand in all phases of our life have a way of being intimately related to monetary returns. The profession of pharmacy as a whole will remain in a healthy state only as long as supply is maintained a little short of demand so that a competitive market is maintained for the services of the pharmacist.



NOW—An attractive PERMANENT BINDER for the Journal of the American Pharmaceutical Association

★ Do your own binding in only a matter of minutes
★ Opens flat as a bound book
★ Made of durable, imitation leather
★ Will preserve your Journals permanently
★ Each cover holds 12 issues
★ Easy to follow instructions
★ Stamped with title, year and volume number

Combination sets for Practical Pharmacy and Scientific Editions:
(Before 1957) **$5.50** a pair
(1957 and after) **$6.00** a pair

Single Editions:
Scientific **$3.25** each
Practical (Old size) **$3.25** each
Practical (New size) **$3.75** each

Postpaid in U.S.—Foreign Countries extra.

MAIL THIS COUPON NOW—MONEY BACK IF NOT SATISFIED

SUCKERT LOOSE LEAF COVER CO.
11911 Grand River Ave., Detroit 4, Michigan

Send .... binders for the Journal of American Pharmaceutical Association
.... Practical Pharacy Edition for years..... Vols.....
.... Scientific Edition for years ..... Vols.....
.... Combinations for years..... Vols.....
Will remit $..... in 10 days or return binders.

Name .....
Address .....
City.....Zone.....State.....

VITAL STATISTICS IN THE U.S.

An estimated total of 1,565,000 deaths was registered in 1956, a rate of 9.4 deaths per 1,000 population (excluding the Armed Forces overseas). The death rate fell to a record low of 9.2 in 1954, then rose to 9.3 in 1955 and 9.4 in 1956. The death rates through the years have been highest during the months of January, February, and March, and occasionally peaks are reached in December.

There has been a downward trend in death rate for each age–sex group since 1940, with a more rapid decline in rate for females. Comparison between the sexes is especially unfavorable for males in the ages 45 to 74.

Leading Causes of Death

The leading causes of death with their rates per 100,000 population are: heart (361.8), cancer (146.6), vascular lesions affecting central nervous system (107.1), and accidents (56.4).

Heart disease and cancer, including vascular disease, account for two-thirds of all deaths.

Infectious and Respiratory Diseases

Once the chief cause of death in the younger age group, infectious disease rates have decreased from 262 deaths (in 1900) per 100,000 population under 15 years from the principal communicable diseases of childhood (scarlet fever, diphtheria, whooping cough, and measles) to 2 in 1956.

The incidence of poliomyelitis has decreased each year since 1952, when the record high of 57,879 cases were reported. About 600 persons died from poliomyelitis in 1956. Part of the decline may have resulted from use of the Salk vaccine.

Tuberculosis, once the leading cause of death in the United States, has dropped to 13th place, with a total of 13,810 deaths in 1956, a rate of 8.3 per 100,000 population. The corresponding rate for 1946 was 34.9, more than 4 times as high.

Diseases of the Aged

There has been a rise in mortality from chronic diseases which occur more frequently in the later years of life. During 1956, 55% of the deaths in the United States were caused by the major cardiovascular-renal diseases, as compared with only 20% in 1900.

Malignant neoplasms (cancer) accounted for 16% of the deaths in 1956, compared with only 4% in 1900. Other major causes of death were diabetes mellitus (2% of deaths in 1956) and cirrhosis of the liver (about 1% of the deaths in 1956).

External Causes of Death

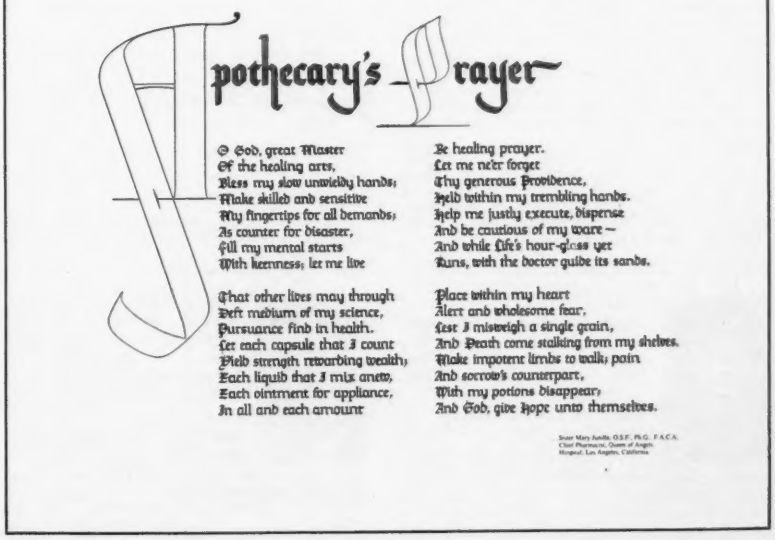
The leading cause of death among persons in the age group 1 to 34 years was accidents, and in general accidents leading to death are much more frequent among males than among females. The rate for motor vehicle accidents rose and in the last 10 years has ranged between 21.3 to 24.3 deaths per 100,000 population. The highest rate for suicide was recorded in the depression year 1932. The highest rate for homicide was recorded in 1933. Homicides are three times as high for males as for females, and the suicide rate is three times as high for whites as for nonwhites.

Maternal and Infant Mortality

During the past decade, the maternal mortality rate has dropped 76%. Twenty years ago, in 1936, the risk was one maternal death for every 176 live births. It has now been reduced to 1 maternal death for every 2,700 live births. A total of 108,300 deaths under 1 year was registered in the U.S. during 1956. Of these, 72% died during the first 28 days.

The Apothecary's Prayer shown below was composed by Sister Mary Junilla, O.S.F., Ph.G., F.A.C.A., Chief Pharmacist at Queen of Angels Hospital, Los Angeles. Because it was felt that the nun's Prayer clearly expressed the solemn responsibilities of the profession of Pharmacy, Wyeth obtained permission to have it reproduced. Prints in two colors, blue and black, on a pale blue were prepared and a large number have been sent to Chief Hospital Pharmacists, Deans of Schools of Pharmacy, Secretaries of State Pharmaceutical Associations, and other persons throughout the country who may wish to frame them. In the photograph are shown Sister Junilla accepting a framed copy of her Prayer from E. V. Scott, Division Sales Manager for Wyeth Laboratories in the Southwest. Look-on at the right is Sister Mary Raymond, Administrator at the hospital. On the original 2-color reproduction appears a symbolic iron mortar and pestle tinted lightly into the background. The mortar and pestle are prized possessions of Harry S. Howard, Chairman of Wyeth Laboratories, whose father used them years ago in his pharmacy in Anamosa, Iowa. Additional copies of the prayer suitable for framing are available upon request from Wyeth Laboratories, Box 8299, Philadelphia 1, Pennsylvania.

Sister Mary Junilla (l), E. V. Scott (Wyeth), and Sister Mary Raymond (r)



Apothecary's Prayer

O God, great Master
Of the healing arts,
Bless my slow unwieldy hands;
Make skilled and sensitive
My fingertips for all demands;
As counter for disaster,
Fill my mental starts
With keenness; let me live

That other lives may through
Deft medium of my science,
Pursuance find in health.
Let each capsule that I count
Yield strength rewarding wealth;
Each liquid that I mix anew,
Each ointment for appliance,
In all and each amount

Be healing prayer.
Let me ne'er forget
Thy generous Providence,
Held within my trembling hands.
Help me justly execute, dispense
And be cautious of my ware—
And while Life's hour-glass yet
Runs, with the doctor guide its sands.

Place within my heart
Alert and wholesome fear,
Lest I misweigh a single grain,
And Death come stalking from my shelves.
Make impotent limbs to walk; pain
And sorrow's counterpart,
With my potions disappear,
And God, give Hope unto themselves.

Sister Mary Junilla, O.S.F., Ph.G., F.A.C.A.
Chief Pharmacist, Queen of Angels Hospital, Los Angeles, California

Both volumetric and gravimetric determinations of solubility in various solvents are compared

*Solubility of Boric Acid**

by John J. Sciarra, John Autian, and Noel E. Foss

The solubility of a substance is of the utmost importance to the retail, hospital, and research pharmacist. A knowledge of solubility enables one to formulate various products and prepare and dispense medicinals. It is possible to utilize solubilities for the qualitative and quantitative separation of many substances. Solubility is a physical constant and as such can be used to determine the purity of a substance.

"When a solution is in equilibrium at a definite temperature with a solid, gas, or a second liquid, the solution is said to be saturated, and the concentration of the solute is known as the solubility. The saturated solution may be prepared by agitating the solvent with an excess of the finely divided solute until there is no change in concentration on further standing."[1] Saturated solutions may also be prepared at a given temperature and the temperature changed to the desired value causing the excess solute to precipitate, forming a solution which is saturated with solute at that temperature.

The solubility of a solute in a given solvent is constant for a given temperature, and as such is a physical constant which can be used to determine the purity of a solute. There are several ways of expressing solubility,[2] such as the USP and NF method, molal, molar, per cent by weight, and per cent by volume. When in pharmacopeial texts it has not been possible, or in some instances not desirable, to indicate exact solubility, a descriptive term can be used, such as very soluble, freely soluble, soluble, etc.[3]

A survey of the literature on the solubility of boric acid revealed very little information. The solubility of boric acid in water at various temperatures has been reported by many workers.[4–7] Holm found that 13.79 Gm. of boric acid was soluble in 100 Gm. of 86.5 per cent glycerin at 20°C. and that 24.8 Gm. of the acid would dissolve in 100 Gm. of 98.5 per cent glycerin at the same temperature.[8] These results agree with the results of Miner and Dalton.[9]

The solubility of boric acid in aqueous solutions of other acids was determined by Kendall and Andrews.[10]

SUMMARY

Various methods for the determination of the solubility of boric acid have been investigated. A comparison was made between a volumetric method and a gravimetric method for the determination of the solubility of boric acid.

Utilizing these methods, the solubility of boric acid in various solvents was determined at 25°C.

Propylene glycol, sorbitol solution, and glycerin were found to be excellent solvents for boric acid.

Polyethylene glycol 400 was found to be a better solvent for boric acid than polyethylene glycol 600.

Of the various sugars and sugar alcohols used in this study as solvents for boric acid, mannitol was found to exert the greatest effect on the solubility of boric acid.

Experimental

In order to determine the solubility of boric acid in the various solvents, several modifications in the usual methods for the determination of solubility had to be made.

Solubility of Boric Acid in Water.—A suitable method for the determination of the solubility of boric acid in water has previously been developed by Sciarra.[11] This method, a modification of the original Jenkins, Christian, and Hager method,[12] is suitable for use with volatile solvents.

A saturated solution of boric acid in water was prepared by placing about 1.5 Gm. of finely powdered boric acid and 25 ml. of distilled water into a solubility tube. The tube was fitted with a stirrer, placed into a thermostat at 25°C., and stirred

---

* Presented to the AAAS, New York City meeting, December, 1956. Abstract of a dissertation submitted to the Graduate School of the University of Maryland by John J. Sciarra in partial fulfillment of the requirements for the degree of Doctor of Philosophy, June, 1957.

The authors wish to express their gratitude to Dr. Gaylord B. Estabrook, Professor of Physics, for his assistance in certain phases of the experimental work.

[1] Daniels, F., and Alberty, R. A., *Physical Chemistry*, New York: John Wiley and Sons, Inc., pp. 281–310 (1955).

[2] Lyman, R. A., and Sprowls, J. B., *American Pharmacy*, Fourth Ed., Philadelphia, Pa.: J. B. Lippincott Co., pp. 102–3 (1955).

[3] *United States Pharmacopeia*, 15th Rev., Easton, Pa.: Mack Publishing Co., p. 7 (1955).

[4] Blasdale, W. C., and Slansky, C. M., *J. Am. Chem. Soc.* **61,** 917–20 (1939).

[5] Nasini, R., and Ageno, I., *Z. Physik. Chem.*, **69,** 482–5 (1910); *Chem. Abstr.*, **4,** 723 (1910).

[6] Lange, N. A., *Handbook of Chemistry*, Fifth Ed., Sandusky, Ohio: Handbook Publishers, Inc., pp. 1244–5(1944).

[7] Benrath, A., *Z. Anorg. Allgem. Chem.*, **239,** 245–50(1942); *Chem. Abstr.*, **37,** 3656(1943).

[8] Holm, *Pharm. Weekblad*, **58,** 860–2(1921); *Chem. Abstr.*, **15,** 2962(1921).

[9] Miner, C. S., and Dalton, N. N., *Glycerol*, New York: Reinhold Publishing Co. (1953).

[10] Kendall, J., and Andrews, J. C., *J. Am. Chem. Soc.*, **43,** 1545–60(1921).

[11] Sciarra, J. J., *A Comprehensive Study of Methods for the Analysis of Boric Acid, and Proposed Changes and Modifications*, Thesis, Pittsburgh, Pa.: Duquesne University, pp. 31–3 (1953).

[12] Jenkins, G. L., Christian, J. E., and Hager, G. P., *Quantitative Pharmaceutical Chemistry*, Fourth Ed., New York: McGraw-Hill Book Co., Inc., p. 499(1953).

JOHN J. SCIARRA, registered pharmacist, received his B.S. in Pharmacy at St. John's University and his M.S. at Duquesne. He receives his Ph.D this June, at the University of Maryland, where he has been Instructor in Pharmacy. He was a Fellow of the AFPE from 1953–1954.

DR. JOHN AUTIAN, Assistant Professor at the University of Maryland, School of Pharmacy, received his B.S. degree at Temple University School of Pharmacy and his M.S. and Ph.D. degrees at Maryland. Dr. Autian has conducted research in the fields of drug degradation and stabilization.

DR. NOEL E. FOSS, Dean and Professor of Pharmacy, University of Maryland School of Pharmacy, has been Professor of Pharmacy at Duquesne and Assistant Dean at University of Illinois College of Pharmacy. Dr. Foss is the author of numerous papers on pharmacy, pharmaceutical chemistry, etc.

constantly for 3 hours. Then the stirrer was removed from the tube and the excess crystals of boric acid were allowed to settle. About 5 ml. of the clear solution was placed into a tared evaporating dish and accurately weighed. The aqueous liquid was removed by evaporation over a water bath at 80°C., and the residue was then dried to constant weight in a desiccator containing sulfuric acid.

Solubility of Boric Acid in Nonvolatile Solvents—The above method for the determination of solubility cannot be used in the presence of nonvolatile solvents. Therefore, a saturated solution of boric acid in the nonvolatile solvent was prepared by placing an excess of boric acid and 100 ml. of the solvent, previously neutralized to phenolphthalein, into the solubility tube and then proceeding as above. After saturation had been reached, 25 ml. of the solution was removed from the solubility tube and assayed according to the U.S.P. assay for boric acid.[13]

In order to determine the effectiveness of this method, the solubility of boric acid in water was determined by the gravimetric method[11] and the above volumetric method.

The solubility of powdered, granular, and flaky boric acid in water was determined at 25° C. ± 0.1°. Determinations were made utilizing both the volumetric method and the gravimetric method.

Having determined the suitability of the volumetric method for solubility determinations, the solubility of boric acid in the following solvents was determined at 25°C. ± 0.1°:

a) Distilled Water
b) Propylene Glycol, U.S.P.
c) Polyethylene Glycol 400 U.S.P.
d) Polyethylene Glycol 600, Technical, R. F. Revson Co., New York, N.Y.
e) Sorbo, Atlas Powder Co., Wilmington, Del. (sorbitol solution)
f) Dextrose Solution, 10% and 25% (Dextrose U.S.P.)
g) Mannitol Solution, 10% (Mannitol, Fisher Scientific Co., Washington, D.C.)
h) Maltose Solution, 10% (Maltose, Fisher Scientific Co., Washington, D.C.)
i) *d*-Levulose Solution, 10% (*d*-Levulose, Fisher Scientific Co., Washington, D.C.)
j) *d*-Levulose, Syrupy, Fisher Scientific Co., Washington, D.C.
k) Lactose Solution, 10% (Lactose, U.S.P.)
l) Glycerin, U.S.P.

Solutions of sorbitol were prepared by diluting Sorbo solution with varying quantities of distilled water so that concentrations of sorbitol were obtained from 0% to 70% sorbitol by weight in increments of 5%.

In order to express solubility in several different ways, it was necessary to know the specific gravity, or density, of a saturated solution of boric acid in the respective solvent. The specific gravity of each of the above solvents, and the specific gravity of a saturated solution of boric acid in each solvent was determined at 25°C. using the pycnometric method.[14]

A constant temperature was maintained throughout the course of this experiment through use of a constant temperature water bath.[15] This water bath was capable of maintaining a constant temperature within ±0.1°.

The solubility tube was fitted with a rubber stopper containing a suitable length of glass tubing which served as a guide for the glass stirring rod. Stirring was accomplished by means of a stirring motor.

After determining the solubility of boric acid in several of the above solvents, it was found that several changes in the above methods could be made without affecting the final results. Since the solubility tubes used in this experiment had a capacity of

Table I—Solubility of Boric Acid in Water at 25°C.

Form of Boric Acid	Solubility—Ml. of Solvent/Gm. Solute	
	Gravimetric Method	*Volumetric Method*
Flakes, scales	1:18.08	1:17.29
Granular, crystalline	1:18.10	1:17.13
Powdered	1:18.44	1:17.20

Table II—Solubility of Boric Acid in Various Solvents at 25°C.

Solvent	Solubility			Specific Gravity	
	Ml. Solvent/ Gm. Solute	*Per cent by Weight*	*Per cent by Volume*	*Solvent*	*Sat. Solution of Boric Acid*
Water	18.08	5.24	5.35	1.0000	1.0203
Propylene Glycol	5.44	15.06	16.23	1.0360	1.0774
Polyethylene Glycol 400	11.37	7.82	8.97	1.1230	1.1470
Polyethylene Glycol 600	16.51	5.38	6.13	1.1250	1.1399
Sorbo	3.45	22.27	28.80	1.3023	1.2933
Dextrose 10%	18.31	5.27	5.55	1.0363	1.0524
Dextrose 25%	19.23	4.78	5.25	1.0884	1.0977
Mannitol 10%	14.64	6.62	6.96	1.0325	1.0517
Maltose 10%	18.15	5.32	5.61	1.0351	1.0541
Lactose 10%	17.86	5.42	5.71	1.0346	1.0533
d-Levulose 10%	18.10	5.33	5.63	1.0369	1.0559
d-Levulose Syrupy	19.17	4.08	5.09	1.2786	1.2470
Glycerin 95%	3.89	17.55	22.29	1.2454	1.2703

Table III—Solubility of Boric Acid in Sorbitol Solution at 25°C.

Concentration of Sorbitol, % w/w	Solubility			Specific Gravity	
	U.S.P. or N.F.	*Per cent by Weight*	*Per cent by Volume*	*Solvent, Sorbitol Solution*	*Sat. Solution of Boric Acid*
0	16.98	5.57	5.68	1.0000	1.0203
5	14.60	6.31	6.55	1.0175	1.0376
10	12.68	7.09	7.49	1.0340	1.0559
15	11.10	7.87	8.46	1.0548	1.0745
20	9.75	8.72	9.55	1.0743	1.0948
25	8.73	9.47	10.55	1.0950	1.1137
30	7.71	10.42	11.81	1.1159	1.1338
35	7.00	11.18	12.88	1.1367	1.1521
40	6.62	11.63	13.54	1.1501	1.1641
45	5.72	12.92	15.38	1.1782	1.1901
50	5.20	13.80	16.69	1.2001	1.2095
55	4.64	14.98	18.44	1.2250	1.2313
60	4.15	16.17	20.24	1.2489	1.2517
65	3.75	17.31	22.01	1.2732	1.2718
70	3.37	18.66	24.22	1.2982	1.2982

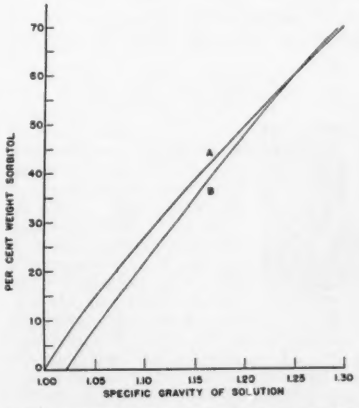


FIG. 1 – SPECIFIC GRAVITY OF BORIC ACID-SORBITOL SOLUTIONS AT 25°C. "A"-SORBITOL SOLUTION; "B"-SATURATED SOLUTION OF BORIC ACID IN SORBITOL

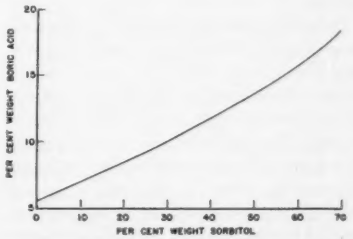


FIG. 2 – SOLUBILITY OF BORIC ACID IN SORBITOL SOLUTION AT 25°C.

[13] *United States Pharmacopeia*, 15th Rev., Easton, Pa.: Mack Publishing Co., p. 103(1955).

[14] Daniels, F., Mathews, J. H., and Williams J. W., *Experimental Physical Chemistry*, Fourth Ed., New York: McGraw-Hill Book Co., Inc. pp. 101–3, 427–9(1949).

[15] Constant Temperature Water Bath, Sargent, Full Visibility, Chicago, Ill.

about 100 ml., saturated solutions of boric acid in the solvent were prepared by adding enough solvent, previously neutralized to phenolphthalein, to an excess of boric acid. The solubility tube was placed into the thermostat and stirred for 24 hours. It had been found that in all cases a saturated solution was reached within the 24 hours. Then, several portions of this solution were removed from the solubility tube and its boric acid content determined.

The solubility of the various forms of boric acid in water, as determined by the gravimetric method and the volumetric method, is given in Table I. Table II shows the solubility of boric acid in the various solvents. The specific gravity of a saturated solution of boric acid in the solvent is also given in this table. Table III shows the solubility of boric acid in various concentrations of sorbitol solution at 25°C. These results are plotted in Figs. 1 and 2.

Discussion of Results

The solubility of the various forms of boric acid was determined and found to be the same within 0.5 ml. of water. The slight difference among the results is attributed to experimental error.

There is a difference of about 1 ml. of solvent between the solubility as determined by the gravimetric method and the volumetric method. At first this difference was believed to be due to the residue present in the water. The residue in 5 ml. of water was determined gravimetrically and the average of three determinations found to be less than 0.0005 Gm. This residue may account for part of this difference. Another possible reason for this difference may be due to loss of boric acid during the evaporation process. It has been pointed out in another publication[11] that boric acid is volatile and will escape with the vapors from solution. Even though the evaporation was carried out at a temperature of 80°C., there is the possibility that some of the boric acid may vaporize and escape with the water vapor. Evidently this is what occurred, since the results showed a loss of boric acid in the gravimetric method as compared to the results by the volumetric method.

Propylene glycol, Sorbo, and glycerin were found to be excellent solvents for boric acid.

The solubility of boric acid in sorbitol solution was found to increase with an increase in concentration of sorbitol. This solubility is being studied at other temperatures, and experiments are in progress to determine if a complex is formed between boric acid and sorbitol. These results will be published in the near future.

Polyethylene glycol 400 was found to be a better solvent for boric acid than polyethylene glycol 600.

Of the various sugars and sugar alcohols used as solvents for boric acid, mannitol was found to exert the greatest effect on the solubility of boric acid.

Industrial Pharmacy and the

International

THE constantly accelerating pace of research in the pharmaceutical industry, with the resultant shift in the prescribing habits of physicians and dispensing habits of pharmacists, requires a re-evaluation of the contributions to pharmacy made by pharmacists engaged in industry. Analysis of the scientific papers appearing in the world-wide scientific journals of pharmacy demonstrates an influence far beyond the small percentage of pharmacists active in the sphere of industrial research. Manufacturing pharmacists and pharmaceutical engineers are constantly engaged in programs designed to lower the costs of production and thereby the price of medication to the patient. In spite of the importance of these workers in professional pharmacy, little is known about them or the nature of the problems which they attack and solve. In most countries, as in the United States, professional organizations of industrial pharmacists are lacking or are insignificantly small. A recent development, however, may have profound effects upon this unsatisfactory situation.

Scope and Influence

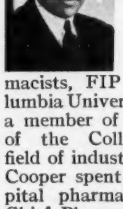
Although the first international congress of pharmacists was held in 1865, in Brunswick, Germany, 47 years elapsed before success crowned the efforts made by many pharmacists to create the *Fédération Internationale Pharmaceutique* (FIP) with the aim of sponsoring the scientific, professional, and ethical interests of the pharmaceutical profession as a whole. Since its establishment, the FIP, in spite of two world wars, has grown in numbers and influence so that today its international importance is considerable. Practically every important national society of pharmacists is affiliated with the organization, as well as hundreds of individual pharmacists from many different countries.

Due to the varied activities and manifold interests of the membership, various sections and groups have been formed within the framework of the FIP At present, these include academic (teaching) pharmacists, editors of pharmaceutical publications, directors of control laboratories, pharmacognocists, military pharmacists, hospital pharmacists, retail pharmacists, and pharmaceutical historians. Although the FIP cannot issue direct instructions or influence legislation other than by suggestion or recommendation, there is no doubt concerning the indirect influence which it wields in connection with the professional life of the pharmacist. By virtue of historical continuity, diverse membership, and external contacts, the FIP appears to be in a uniquely favorable position to serve the interests of pharmacy on the international scene. As with most organizations, all is not perfect and some groups obtain a platform out of proportion to their numbers or contributions to the profession. Nevertheless, sniping at these minor faults from the outside is merely a destructive process which contributes nothing at all to the esteem in which pharmacists are held by members of the other scientific bodies and the general public.

American Participation

In this connection it is interesting to note the strong statement contained in the President's Address[1] of John B. Heinz, presented at the First General Session, 1956 APhA Convention in Detroit. Said Mr. Heinz:

"I suggest that we *immediately* examine, re-evaluate, and plan our role in International Pharmacy. . . .We of American pharmacy, through inaction and lack of participation and effective representation, were but *tolerated* (at the London meeting of the Federation). Our contribution to the FIP was, to say the least, of questionable nature."



JACK COOPER, Director of the Pharmacy Research and Development Division of CIBA Pharmaceutical Products, Inc., Summit, N.J., is the U.S.A. member of the Executive Committee of the newly-formed Section of Industrial Pharmacists, FIP He is a graduate of Columbia University College of Pharmacy and a member of the Curriculum Committee of the College. Before entering the field of industrial pharmacy research, Mr. Cooper spent about two decades in hospital pharmacy, including a period as Chief Pharmacist of Kings County Hospital in Brooklyn, N.Y.

[1] THIS JOURNAL, **17**, 324(1956).

Pharmaceutical Federation

by Jack Cooper

In consequence of that report and other supporting opinions, the following resolution was adopted by the ASSOCIATION:

"Resolved: that the Committee on International Relations be requested to foster increased participation of American pharmacists in the affairs of the International Pharmaceutical Federation and that appointment of representatives from the AMERICAN PHARMACEUTICAL ASSOCIATION to the Federation take into consideration the importance of continuity of representation and experience in the affairs of the Federation."

Section of Industrial Pharmacists

Although many pharmacists employed in industry were members of the FIP, there existed no Section to consolidate their efforts and promote their interests. This unsatisfactory situation continued until 1953 when a resolution was passed at the Paris meeting of the FIP to form such a Section as soon as possible. In implementation of this resolution a preliminary meeting was held on September 20, 1955, in conjunction with the 16th General Assembly of the FIP in London. Over 80 delegates from 14 countries were present when Sir Hugh Linstead, President of FIP, opened the session with an address of welcome.

Because of the strong feeling evidenced by all the delegates for the formation of a Section of Industrial Pharmacists, the proceedings moved rapidly through the preliminary organizational stages. Following the adoption of a constitution, working principles, and the election of officers and a committee, the Council of the FIP voted approval of the new Section. For the first time in the history of pharmacy there came into existence a group dedicated to the promotion of the professional and scientific interest of the thousands of pharmacists employed in industry.

In general, the Section will be guided by a democratic, realistic interest in problems capable of fulfillment. The members of the Committee are pledged to keep in close touch with their national organizations, thereby bringing to the Committee not only individual views but also the views of their organizations and in turn advising the organizations of the views of the Committee and the Section. With this approach, the influence of the Section in scientific and professional questions affecting the pharmaceutical industry all over the world will be greatly enhanced. Through the medium of the Federation, the Section will be able in a constitutional manner to express the point of view of industrial pharmacists to directors of control laboratories, hospital pharmacists, pharmacopoeial commissions, and other branches of pharmacy represented in the Federation.

Section Members and Officers

Membership in the new Section is restricted to pharmacists who are Associate-Members of the Federation and engaged in the pharmaceutical industry. Nonmembers of the Section may, however, be admitted to its meetings and invited to present scientific or professional papers. The officers of the Section of Industrial Pharmacists are: President, C. W. Robinson (Great Britain), Vice-Presidents, O. P. Gaudin (France) and C. Stevens (Great Britain), and Secretaries, R. Morice (France) and A. Duckworth (Great Britain). In addition, members of the Executive Committee are F. F. Auslander (Israel), F. Chavatte (Belgium), J. Cooper (U.S.A.), E. Lang (Switzerland), R. Larose (Canada), S. Mahmassani (Lebanon), J. Polderman (Netherlands), A. Soldi (Italy), A. Stump (Germany), H. Wiström (Sweden), and N. Steinø (Denmark).

Section Program

In order to initiate the working program of the Section, the President appointed subcommittees to examine the three following topics of major importance:

1. The unification of labeling of poisons.
   Subcommittee:
   M. L. Charial (France)
   J. Cooper (U.S.A.)
   Prof. A. Soldi (Italy)
2. Problems involving the technical activities or decisions of regulatory bodies as they affect the practice of industrial pharmacy.
   Subcommittee:
   E. Lang (Switzerland)
   C. Stevens (Great Britain)
   N. Steinø (Denmark)
3. Education requirements for students seeking careers in the pharmaceutical industry.
   Subcommittee:
   Prof. R. Larose (Canada)
   J. Polderman (Netherlands)
   F. Chavatte (Belgium)
   Dr. A. Stump (Germany)

Other subjects to be considered at a later stage include:

1. The provision of technical assistance and advice to the Secretaries of Pharmacopoeial Commissions.
2. The exchange of information useful for increasing productivity or improving the quality of pharmaceutical products manufactured on a large scale.
3. The impact of new scientific or engineering developments on the practice of industrial pharmacy.
4. Problems arising with supplier industries such as glass, rubber, plastics, etc.
5. Techniques for improving the administration or performance of pharmacy research in industry.
6. Methods for improving the functional relationships between the different sections within a pharmaceutical plant.
7. Modern quality control as a tool for increasing safety and quality in the manufacturing process.
8. The collection and dissemination of factual information concerning the pharmaceutical industry as needed by the Bureau or other Sections of the FIP

It is obvious that this program is broad enough to enlist the participation of every American industrial pharmacist whose thinking is not limited by scientific isolationism or provincialism. Certainly no group in our profession is more aware of the international nature of pharmaceutical research and the many contributions which have been made by industrial pharmacists outside the pleasant confines of the United States.

APhA Support

Active support of the new Section of Industrial Pharmacists by the AMERICAN PHARMACEUTICAL ASSOCIATION will serve to implement at least in part the resolution urging increased participation of the APhA in the International Pharmaceutical Federation. The contributions made by pharmacists in the American pharmaceutical industry are highly important but frequently unknown to fellow pharmacists outside the United States. Similarly, the scientific and professional thinking of our foreign colleagues rarely crosses the ocean. Through membership and active participation in the affairs of the new Section, American industrial pharmacists will have an opportunity to correct this break in professional communications. The presence of a large delegation of American pharmacists at the 1958 meeting of the General Assembly of the FIP in the beautiful city of Brussels will surely change the attitude of our foreign colleagues from "toleration" to esteem.

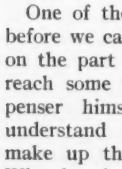
Elimination of dispensing by physicians may be aided by understanding the

MOTIVES of the D

THE problem of the dispensing physician is in the forefront of the minds of most retail pharmacists today. Certainly their opinions about the practice of dispensing have been frank. When the AMA revised their code of ethics to permit a physician to prescribe or supply drugs, as long as there is no exploitation of the patient, the reaction was especially loud and vociferous. This revision of the AMA code altered a previous section of the code which had declared as unethical the participation of a physician in the ownership of a pharmacy in his medical practice area unless adequate pharmaceutical facilities were otherwise unavailable. Unfortunately, little has been offered which has been carefully thought out and which has been based on some consideration other than economic jeopardy. The code still maintains the provision stating

"The ethical physician limits the sources of his income, received from professional activities, to services rendered the patient."

One of the first things we must do before we can act to curtail dispensing on the part of physicians is to try to reach some understanding of the dispenser himself. We should try to understand the influences going to make up the mind of the dispenser. Why does he dispense? Why is he not content to practice medicine alone as most of his fellow practitioners do? Why does he feel the need to compete with the practice of pharmacy? What are his motives? Perhaps if we can answer these questions we can get to the root of the dispensing problem and from there take some positive steps to eradicate it. As the organic chemist does, we must analyze before we can synthesize, instead of making only loud protests.



WILLIAM H. HELFAND is currently Director of Production for Hance Brothers and White Company, Philadelphia. He holds degrees in both Chemical Engineering and Pharmacy. Prior to his present position, he had experience in retail pharmacy, detailing, pharmaceutical quality control, and engineering, and for three years he was with the Economic Research Division of Merck, Sharp and Dohme, being mainly engaged in Pharmaceutical Market Research. He was Chairman of the 1957 Philadelphia Pharmacy Forum.

* Presented to the Section on Pharmaceutical Economics, APhA Detroit Convention, April, 1956.

Rationalization

The reasons given by physicians for dispensing are many and are fairly standard when discussed with physicians who practice in such a manner. Perhaps it might be well to list these reasons so that we can appreciate some of the concepts that underlie them:

1. I can maintain very close control over my patients. They must talk to me if they need more medication. There can be no unauthorized refills.
2. I can never be sure my patients will get exactly what I want them to have unless I give it to them myself.
3. My patients get their medicine when they need it. They do not have to make a special trip to the drug store or wait until the next day if it is late at night.
4. My patients save money on the medicine I give them.
5. Drug stores are outlets for other things anyway. No store sells only medicines.
6. Druggists make exhorbitant profits.
7. Druggists prescribe—so I dispense.
8. I make money on drugs, especially the cheaper ones like aspirin, phenobarbital, and nitroglycerin.
9. Competition with other doctors forces me to dispense.
10. Drug store service is not available in my area.
11. I am sure of what medicine is available—not reliant on what the druggist has.

Of course, there are many other reasons varying from individual to individual and from area to area. But almost every dispensing physician will give the eleven answers above when asked why he does what he does. On the surface, *these are fairly logical reasons from his viewpoint, although every one of them can be refuted* by a persuasive and intelligent pharmacist. Yet, if the reasons are true, why is it that all physicians do not dispense? Why is it that only 15% of physicians dispense more than half of their medication and all the rest prescribe for their patients in the normal manner?

Obviously, the physician who dispenses is in a class by himself. Over and above the logical reasons enumerated above, *he is motivated by certain forces that do not enter into the thinking of the vast majority of his fellow practitioners.* We must remember that on the whole, the physician who dispenses is in a minority, and that an analysis of the drives behind his actions are peculiar to him alone and do not represent the actions of the vast majority of his fellow practitioners. We are concerned only with a fringe group in the medical profession, only 15% of the whole. We are concerned with the forces that underlie the thinking of only one part, a very small part, of the whole. Perhaps by understanding these forces we can understand why the dispenser has remained a problem for so long a time.

Motives for Dispensing Physicians

Not mentioned in the basic reasons listed above but unconsciously underlying them nevertheless are some basic human impulses, and the question is raised as to whether or not these subconscious motives can explain the actions of the dispenser. Besides the motive of *economic gain,* which may or may not be significant here, perhaps other motives may be. Perhaps the *feeling of fear* can be one of the underlying motives of this group of practitioners. Perhaps *self-glorification* is another motive which can be considered basic to the drives behind the dispensing physician. No dispensing physician will admit he is afraid or that he considers himself some sort of a god, just as no savings bond purchaser would admit that he was bullied into buying something other people thought he should buy. It is really asking too much to lay one's basic emotions bare to such an extent. Yet by closely examining the philosophy of the dispenser, we probably can learn something of the motives that cause him to do what

Dispensing Physician

by William H. Helfand*

he does, and even decide on some positive course to help fulfill his desires.

Fear as a Motive

Fear can take many forms. A physician dispenses because he is afraid to lose patients to other physicians who dispense in the area. He is afraid to give the patient a prescription because he thinks the pharmacist may overcharge and that the patient will believe the physician is responsible. He is afraid to make the patient go to another place and thus waste time for he might be blamed. He is afraid to lose direct contact with his patients. He is insecure because he is not certain of his ability to hold on to his practice and must use some outside methods to protect what he has. Like most people he is afraid to admit his fears. He is afraid also of the loss of his professional prerogatives, afraid that they might be usurped by the pharmacist who will also see his patient.

Fear is one of the basic human emotions. Indeed, some psychologists have called it the one basic motivation for all actions. Outwardly it may take many forms, all of which may be difficult to trace to their origins. However, it may go a long way toward explaining the actions of various groups of people, such as the class of physicians we have been discussing.

Glorification as a Motive

The idea of glorification may be the second basic motive behind the practice of dispensing. To understand what is meant by this concept requires a frame of reference with which not many of us are accustomed. Some men believe they have a mission in life—perhaps a destiny to live up to. Some men subconsciously picture themselves in some sort of a god-like role or something very close to that. In their self-image they create a picture of a superman, or conqueror, or messiah.

The physician is one of the few remaining groups in America who is able to practice his profession alone. Consequently, his individuality is a precious thing, something he insists on holding on to in the face of all obstacles. He resists social change in the form of the socialization of medicine, insurance programs, social security, and the like. This individuality tends to make for a subconscious belief that he is some sort of a god, ministering to the lame and the halt, and curing all the illnesses of mankind. He is making the world a better place in which to live, and granting happiness, peace, and abundance. It is a short step from such a feeling to one of a likeness unto God.

To the dispensing physician, these feelings receive a certain measure of conscious behavior. He tends to approve of all things tending to glorify the image he has created of himself and to disapprove of those factors tending to minimize the image. He must cure the patient; no one else should. If he gives the medication, he will get the credit. Otherwise, might not the patient think the pharmacist performed the cure; after all, did he not mix the medicine? If the pharmacist counter-prescribes, is he not destroying the image? If he substitutes, is he not going against the will of the "healer?" No one must interfere with the self-image of glorification which has been created by the physician.

Of course, these ideas are never stated, nor are they ever truly felt in the daily musings of the physician. But to postulate their existence serves to explain many of the actions that follow in their wake.

Curtailing Dispensing by Physicians

Suppose these motives really do exist. Let us assume that economic gain, fear, and glorification do actually underlie the practice of dispensing. Where can we go from there in order to curtail the practice? Obviously, any action on our part must take cognizance of these motives in order to be fruitful. Anything we do to stop dispensing will have to recognize the basic fears of the physician and play up to his self-image.

We should attempt to assuage his fears by proving our good motives. We should definitely refuse to refill a prescription unless we inform the prescriber and get his approval. We should always show our basic honesty and our refusal to alter his exact wishes. We should impress the physician with our many services and show him they are merely an adjunct to his and not competition. Whatever we do should be a sincere attempt to minimize his fears.

At the same time, we must show respect for his role as a prescriber to the sick, and as a pillar of the community. We must show him that his diagnosis has been accurate and that his methods of treatment have been successful. These things can be done with professional dignity and in a spirit of respect shown by one colleague to another. We must show him that he is actually degrading his professional practice by not adhering to basic principles of conduct.

We must also act to do away with the conscious feeling he has regarding the actions of the practice of Pharmacy. Have we done anything of a positive nature to stop counter-prescribing? Are we in any way competing with the physician in his own practice? Are our stocks up to date with all the latest specialties he might prescribe? Is our service adequate for his needs? His feelings about the practice of our own profession must be taken into account if we are to satisfactorily decrease his own dispensing habits.

The suggestions put forth as possible guides to the subconscious motives of the dispensing physician may or may not be true. Certainly an understanding of them is important and preliminary to any attempt to curtail the practice of dispensing. While other fields of psychological behavior have been adequately analyzed, this is one area where much vital work needs to be done. The ideas set forth in this report are merely hypotheses—not scientific facts. But as hypotheses, they may reveal methods that can be put to good advantage. Perhaps by using such methods that take into account the basic motives of the dispenser, we can act to curtail this practice. At least we will have something positive on which to base our actions, instead of merely a waving of arms and a gnashing of teeth.

DIVISION OF

HOSPITAL PHARMACY

by Paul F. Parker

Student Visitation Project

STUDENTS from four colleges of pharmacy have an opportunity each year to get a thorough insight into the field of hospital pharmacy. For the fifth consecutive year the Akron Area Society of Hospital Pharmacists (AASHP) has conducted a student visitation program with the hospitals in Akron serving as hosts to students from neighboring colleges of pharmacy. The value of the program is demonstrated each year by the enthusiasm shown by the students, the desire of the colleges of pharmacy to have the program continued, the number of students who participate in the program and later join the pharmacy staffs of the hospitals, and the satisfaction the hospital pharmacists get from conducting the program.

The project has grown each year from a beginning of half a dozen students from one college, to a high of 43 students this year from four colleges: Duquesne University in Pittsburgh, Ohio Northern University in Ada, Ohio State University in Columbus, and the University of Pittsburgh. Each school is invited to send a limited number of students who have expressed some interest in hospital pharmacy to Akron at the student's expense. When the students arrive the hospital pharmacist hosts assume the full expense of the program.

The recent visitation project began with the arrival of the students in the late afternoon and dinner was furnished by the Akron City Hospital. A Transportation Committee provided cars and drivers to shuttle the students from one hospital to another during their entire stay. After dinner they were taken to St. Thomas Hospital where they inspected the pharmacy department and attended a program in the hospital auditorium much like the regular monthly meetings of the AASHP, except that the program was student oriented. The group has a membership of only 36 hospital pharmacists including those who travel from the neighboring towns of Youngstown, Canton, Alliance, Massillon, Salem, Warren, and Stubenville.

The evening program for the students consisted, as usual, of presentations by members of the group. The president of the Society, Jack Smittle, from Stubenville, welcomed the group and explained the purpose of the project. Another member, Ted Mink, a staff pharmacist from the Akron General Hospital, explained the organizational history of hospital pharmacy. Bill Slabodnick, assistant administrator of the Massillon City Hospital and a previous hospital pharmacist who still attends most of the meetings, discussed the hospital organization and function. Following a movie, which described other aspects of hospital operation, refreshments were served by the Sisters at St. Thomas. The boys were transported to a local hotel and the girls to a nurses' residence.

DISCUSSING AASHP Student Visit Project (l to r) William Slabodnick, Asst. Administrator, Massillon City Hospital; Dr. Joseph McEvilla, faculty, University of Pittsburgh; Russell Lovell, Project Chairman; Paul Parker, Division of Hospital Pharmacy Director.

Students and hospital pharmacists alike were off to an early start the following day—rising at 6:30, transportation at 7:00, breakfast at a local hospital at 7:30, and on the job at 8:00 a.m. The students were divided into convenient sized groups to make the tour of the hospitals. Every part of the program was carried out with precision and gave the impression that the hosts were veterans at the job. It was conducted similar to the tours which are provided regularly by the major pharmaceutical companies and the students exhibited similar enthusiasm.

Each facet of the daily routine in the pharmacy was made more meaningful to the students through the use of special demonstrations in each hospital. Though the students themselves did not do the actual work, they were shown many of the details concerning such procedures as handling basket orders for the nursing units, completing narcotic and barbiturate control systems, making pharmacy reports, filling outpatients orders, manufacturing bulk pharmaceuticals, and preparing parenteral fluids.

Lunch was provided by the Akron General Hospital where the students mingled with physicians, nurses, and other hospital employees. The tour and demonstrations continued until midafternoon when they gathered in a lounge for questions and a discussion of other topics such as pricing policies in the hospital, internship and graduate study programs, opportunities in hospital pharmacy, etc.

The program was concluded with a banquet which was given by Children's Hospital. Several small favors were presented to each student. The hospital administrators expressed an interest and enthusiasm in the project comparable to that shown by the hospital pharmacists themselves, even though the pharmacists were the only group in the hospitals conducting such programs.

The project this year, under the chairmanship of Russell Lovell, chief pharmacist at Akron City Hospital, is a unique type of program. It demonstrates the importance of small professional organizations whose members cooperate closely in a united effort. It provides specific information for the student in such a way that he is impressed by it, enjoys it, and probably will remember it. In an informal evaluation of the program, one of the students asked "Why isn't this type of opportunity made available to the students in all colleges of pharmacy?" It should be, and we in the practice of pharmacy miss a wonderful opportunity when we fail to align ourselves and our work with the interest and enthusiasm of the students. The experience is stimulating and it may be possible that the efforts necessary to implement such a program would be amply rewarded in the future.

On The ECONOMIC SIDE

by Charles C. Rabe

Rich—in Ethics

One of the most professional pharmacists the writer has ever known is not particularly rich in worldy goods, but he is indescribably rich in ethics as they apply to his dealings with patrons in connection with the sale of packaged remedies. Over the years he has refused to carry in stock those products which, although they are highly advertised, have questionable merit according to his judgment as a professionally trained person. Few pharmacists would dare be so forthright in such matters lest they find themselves facing eventual bankruptcy, but this neighborhood pharmacist has done sufficiently well over the years to raise a family according to above-average standards.

Pharmacists must indeed be careful not to malign drug remedies but on the other hand they have a prerogative to exercise professional judgment on the basis of their extensive professional training. They have a professional obligation to their patrons to prevent wasteful expenditures on products of questionable merit when circumstances suggest that a visit to a physician is indicated. Good professional behavior demands that pharmacists be more than watchdogs in reporting exaggerated claims; they must display professional integrity by refusing to carry such products in stock.

The Duplication Problem

There can be no question about the fact that some pharmaceutical manufacturers have been guilty of excesses in connection with the marketing of new products, many of which represent duplications of products already in existence. The fact that 400 new products are released each year does impose inventory problems on retail and hospital pharmacists. But how much of a problem?

Unfortunately, some pharmacists cannot answer this question accurately except to state a personal conviction based on the fact that it appears as though their inventories are overloaded with new products. The point to be made is that few pharmacists keep records of the type that show the number of new products added to their stocks each year, the dollar investment in first purchases and year-end inventories of such items, and the amount of obsolescence. Keeping such a tally would not be particularly difficult since the number of new products averages about one per day and few pharmacies stock all the new items. Such record keeping would enable pharmacists to place their complaints on a factual basis.

The investment in the smallest size package of each of the 400 new products would normally not exceed a maximum of $1,000 to $1,500, and for the pharmacy stocking an average of one out of every two new products the investment would be closer to $500 to $750. This in itself is no insignificant sum of money, particularly when repeated year after year. But it must be noted in all fairness that a majority of new products do realize some movement and hence most of the investment is fluid.

The greatest danger in the new product problem often lies in the over-optimistic purchasing policies of pharmacists who want to take immediate advantage of price-breaks on quantity purchases, notwithstanding the fact that the demand for new prescription products is subject to frequent changes.

Pharmaceutical Sales Boom

First quarter sales and earnings reports of a number of pharmaceutical and drug manufacturers indicate that another banner year is in the making. Measured against first quarter sales of 1956, various firms showed the following sales increases: Abbott Laboratories, 10%; Sterling Drug, Inc., 7.5%; Chas. Pfizer and Company, 15.8%; Norwich Pharmacal, 11%; Schering Corporation, 10%; and Johnson and Johnson, 6.7%. All but the latter firm showed increases in net earnings per share of stock outstanding.

The Bureau of the Census of the Department of Commerce reports drug and proprietary store sales in March of this year were 5% above March of 1956.

It is clear that pharmacy proprietors should continue to register significant gains in such a healthy economic climate —if they can hold the line on controllable expenses and prevent further sales erosion due to nondrug outlet competition.

Wholesalers Show Profit Gain

According to preliminary results of the 1956 operating survey covering 216 members of the National Association of Wholesale Druggists, wholesalers' composite net profits after taxes increased from 1.97% of sales in 1955 to 2.21% in 1956. There was a slight reduction in "costs of goods sold" (down from 82.75% to 82.70%) but the improved profit picture was largely due to a marked reduction in operating expenses (13.27% in 1955 vs. 12.86% in 1956). It is interesting to note that this is the first time since 1950 that NWDA members' average composite net profit after taxes reached 2% of sales.

Operating percentages for 1956 are shown below in table form.

Net Sales	100.00%
Cost of Goods Sold	82.70
Gross Profit	17.30
Operating Expenses	12.86
Administrative	5.00
Occupancy	.58
Selling	3.43
Warehouse	2.54
Delivery	1.30
Net Profit before Taxes	4.43
Federal Income Taxes	2.22
Net Profit after Taxes	2.21

NWDA wholesalers employ a field sales force of 3,207 salesmen, backed up by some 1,220 telephone sales personnel. Total net sales of these wholesalers in 1956 amounted to more than $1.1 billion, a sales gain of nearly 11% over the previous year. Top increases of between 12% and 13% were registered in the Southern and South Atlantic areas.

The Demand for 1957 Graduates

Approximately 3,500 young men and women will be graduated by the nation's pharmacy colleges this month. Perhaps as many as 85% of these graduates will take employment in retail pharmacies.

It is recognized that shortages of pharmacists do exist in many parts of the nation and hence most of this year's graduates should experience no particular difficulty in finding employment. But the time has come when one might question whether the replacement rate figure generally recognized as being applicable to today's conditions is in keeping with the dynamic changes that have taken place since the very thorough *Pharmaceutical Survey* was completed nearly ten years ago.

First, there has been a marked growth in the number and size of new suburban pharmacies; second, sales volume per employee has increased due to modern methods of distribution; and third, the number of prescriptions which a pharmacist can process during a workday has increased due to the continued trend toward use of prefabricated products.

The replacement rate figure of 3.1% (3.4% based on expanding population) may still be applicable but in view of the changes that have taken place since the late 1940's it would appear that Pharmacy is very much in need of an up-to-date, comprehensive manpower study.

FEDERAL & STATE ACTIONS

FDA ACTIONS

Illegal Over-the-Counter Sales for the Month of April

Denver, Colo.—Selling amphetamine without physicians' prescriptions. Fined $750 and placed on probation for 3 years.

Fort Valley, Ga. (truck stop)—Selling amphetamine without physicians' prescriptions. Owner fined $250; employee fined $100; both placed on probation for 5 years.

Chicago, Ill.—Selling sulfonamides and penicillin without physicians' prescriptions. Fined $250 plus costs of $38.40.

Chicago, Ill.—Selling amphetamine, sulfonamides, barbiturates, and hormones without physicians' prescriptions. Firm fined $600; company official fined $600 plus $40.80 costs.

Olney, Ill.—Selling sulfonamides, amphetamine, barbiturates, and/or hormones without physicians' prescriptions. Firm fined $500 plus costs of $16.65; company official and two employees each fined $250 plus costs of $16.65.

Milford, N.J.—Selling barbiturates and/or ergot preparations without physicians' prescriptions. Owner fined $250 and placed on probation for 6 months; employee fined $150 and placed on probation for 1 year.

Lawrence, N.Y.—Selling and refilling prescriptions for barbiturates, penicillin, and/or amphetamine without physicians' authorizations. Firm fined $1,250; one partner fined $1,500, another fined $1,000; employee fined $500.

Charlotte, N.C.—Selling amphetamine and/or sulfonamide without physicians' prescriptions. Owner fined $750, 2 year jail sentence suspended, and placed on probation for 3 years. Clerk fined $150, 1 year sentence suspended, and placed on probation for 2 years.

Durham, N.C.—Selling penicillin, sulfonamides, barbiturates, and amphetamine without physicians' prescriptions. Fined $1,000 and placed on probation for 2 years. (Terminated in March, but not previously reported.)

New London, N.C. (truck stop)—Selling amphetamine without physicians' prescriptions. Fined $500 and placed on probation for 2 years.

Rural Hall, N.C.—Selling amphetamine and sulfonamides without physicians' prescriptions. Fined $1,000 and placed on probation for 2 years.

Lawton, Okla.—Selling reducing drugs without physicians' prescriptions. Fined $500 and placed on probation for 5 years.

Exempt from Prescription Sale

Vibesate—Certain Vibesate (a mixture of copolymers of hydroxy-vinyl chlorideacetate, sebacic acid, and modified maleic rosin ester) preparations have been exempted from prescription sale requirements when prepared "in a form suitable for self-medication by external application to the skin as a spray." The preparations must meet a number of requirements and be labeled to warn against use on serious burns and on infected, deep, and puncture wounds unless directed by a physician; spraying near the eyes or other mucous membranes; inhaling and against fire hazard. [*Fed. Reg.* **22,** 2435 (May 16, 1957)]

Records

In order to insure that foods, drugs, cosmetics, coal tar colors, and certain other specified products will not be adulterated or misbranded upon completion of processing, labeling, or repacking, new regulations require that persons introducing shipment or delivery of these unlabeled products into interstate commerce, and operators of establishments processing, labeling, and repackaging these products, must keep written agreements containing adequate specifications for varying periods of time, depending on the product, ranging up to 3 years after disposal of all of the batch covered by a certificate or written record. [*Fed. Reg.* **22,** 2458 (1957)]

COMMERCE ACTIONS

Export Privileges Denied—K. Burgi-Tobler & Company (Karl Burgi-Tobler, Anna Burgi-Tobler) of Zurich, Switzerland, knowingly concealed material facts and caused false statements to be made on export control documents. The company knowingly disposed of, diverted, trans-shipped, and re-exported United States commodities to unauthorized Soviet bloc destinations. Shipments included, among other items, 250 kilos of pentobarbitol sodium priced at $5,125, 10 kilograms of bacto-agar, 25 kilograms of calcium fluoride crystals valued at $9,000, 150 tons of paraffin wax priced at $37,300, 225 tons of paraffin wax valued at $56,250, and culture media valued at $1,800. Ultimate destinations were such Soviet bloc countries as East Germany, Communist China, and Poland.

Baird Chemical Corporation of New York City, which supplied the chemicals, has been denied all privileges of participating directly or indirectly in any manner or capacity in exportation of any commodity or technical data from the United States to any foreign destination, including Canada, for a period of three months, but the order was suspended upon condition that Baird does not knowingly violate the export control laws during a period of six months. The Burgi-Tobler Company's export control privileges were withdrawn but it may have them reinstated after 32 months provided that it does not knowingly violate the terms of the export control laws or regulations. [*Fed. Reg.* **22,** 1343(March 5, 1957)]

FTC ACTIONS

Rolaids—The Federal Trade Commission has issued a complaint against American Chicle Company, Long Island City, N.Y., charging that its television advertising of Rolaids falsely disparages competing alkalizers and misrepresents that the medical profession generally endorses the product.

The complaint, developed from investigative work by the Commission's recently organized Radio and TV Monitoring Unit, is the first in which alleged visual deception is described in detail.

The complaint alleges the company's TV commercial falsely presents in picture and narration that products competing with Rolaids are markedly less effective in combating stomach acids. The complaint also describes picture and narration purporting to convey to TV viewers that Rolaids are endorsed by the medical profession. One of the challenged TV scenes pictures a man wearing a doctor's white coat (and addressed as "doctor") who recommends Rolaids as preferable to "old fashioned alkalizers."

The complaint states that Rolaids are not, as claimed in the advertising, twice as effective in neutralizing stomach acid as some competitive antacid preparations. Also, the complaint continues, doctors or the medical profession generally do not prescribe or recommend Rolaids. A hearing is scheduled July 23 in New York City before an FTC hearing examiner.

For

HAY FEVER,

COLDS,

SINUSITIS

NTZ®

Nasal Spray

CONVENIENT NONBREAKABLE SQUEEZE BOTTLE

A physiologically balanced formulation of three well known and widely used compounds:

N eo-Synephrine® HCl, 0.5%
dependable decongestant

T henfadil® HCl, 0.1%
powerful antihistaminic

Z ephiran® Cl, 1:5000
wetting agent and antibacterial

DELIVERS FINE EVEN SPRAY

LEAKPROOF

Rapidly Effective

No Antibiotic Sensitization

Supplied in spray bottle containing 20 cc.

Winthrop LABORATORIES • NEW YORK 18, N. Y.

NTZ, Neo-Synephrine (brand of phenylephrine), Thenfadil (brand of thenyldiamine) and Zephiran (brand of benzalkonium chloride, refined) trademarks reg. (U.S. Pat. Off.

(*Continued from page 352*)

Secretary; *Frank Pallaria*, Treasurer; and *Richard Metcalfe*, Program Chairman.

Medical College of Virginia—Newly elected officers are: *Franklin A. Robertson*, President; *William P. Caldwell*, Vice President; *Adrian Eugene Andes, Jr.*, Secretary; *C. William Hertzog*, Treasurer; *Roy L. Garrett*, Historian; and *Richard Dooley*, X-ray representative.

New England College of Pharmacy—*Romulus DeNicola* of the Massachusetts Board of Pharmacy addressed the April meeting on the topic: "What Is Expected of the Graduate Pharmacist by the State Board Examiner?"

Ohio Northern University—*John A. MacCartney*, APhA President, spoke at the April meeting on "What Is the APhA Doing for Me?" The Parke-Davis film, "Going Our Way," was presented at the May meeting. Newly elected officers are: *Warren Bertram*, President; *Robert Chalmers*, Vice President; *William E. Evankovich*, Treasurer; and *Deanne Wilson*, Secretary.

Ohio State University—Newly elected officers are: *Steven Deedrick*, President; *Peter Hirsch*, Vice President; *Richard Gleckler*, Secretary; *Alan Grimes*, Treasurer; *Robert Reid*, Business Manager; *William Walston*, Assistant Business Manager; *James LaMoreaux*, Editor of *The Spur; John Marshall*, Assistant Editor; *Robert Penrose*, Circulation Manager; and *Arthur J. Arnold*, Membership.

South Dakota State College—Officers newly elected are: *Richard Wojcik*, President; *Francis L. Wesley*, Vice President; *Ronald Jones*, Treasurer; and *Constance Teig*, Secretary.

Southwestern State College—On April 10 *Dan Donaldson* of McKesson & Robbins presided at a seminar cosponsored by Southwestern Drug and McKesson & Robbins on Modernization and Store Designing. *Norman T. Steward* of Becton-Dickinson spoke on "Prescription Accessories" at the April 15 meeting. *Herman Fry*, District Representative, and *Dan Reardon*, Hospital Representative for Abbott Laboratories, presented talks at the April 29 meeting on "Promotion Plans" and "Blood Transfusion Kits."

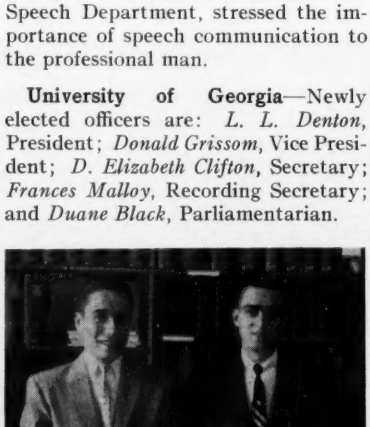
University of Buffalo—Retail pharmacist *Harvey Pleskow* described his views as a recently graduated pharmacist at the April meeting.

ALBANY COLLEGE Student Branch met May 6 to install new officers (l to r) Katherine Zobel, Treasurer; Frederick O'Toole, Vice President; Joseph Chiarella, President; George Allen, outgoing President; Dr. Kenneth Olson, principal speaker; Dean Francis J. O'Brien who was toastmaster; and R. V. DeNuzzo, Faculty Advisor. Nancy Welch (not shown) is the new Secretary.

University of Connecticut—Featured at the March 4 meeting was *Bernard Cole* of Max Factor Company, who demonstrated proper use of cosmetics and discussed the cosmetic industry as related to retail pharmacy. Newly elected officers are *Ronald Jackowitz*, President; *Thomas Esposito*, Vice President; *Dorothy Nishti*, Corresponding Secretary; *Bernard Moore*, Recording Secretary; and *James Spencer*, Treasurer.

University of Florida—In a talk presented at the April meeting, *Prof. Henry P. Constans*, Head of the Speech Department, stressed the importance of speech communication to the professional man.

University of Georgia—Newly elected officers are: *L. L. Denton*, President; *Donald Grissom*, Vice President; *D. Elizabeth Clifton*, Secretary; *Frances Malloy*, Recording Secretary; and *Duane Black*, Parliamentarian.



UNIVERSITY OF BUFFALO Student Branch officers are (seated, l to r) JoAnn Giambelluca, new Treasurer; Myrna Burstein, Secretary; (standing, l to r) Frank Knox, Vice President; Harold Scarlett, President.

University of Houston—Members of the Pharmacy Liaison Committee of Houston, pharmacy faculty members, and Vice President Clanton W. Williams of the University were guests at the annual spring banquet and dance held May 4.

University of Kansas—The April meeting included a discussion by Branch members of ethics in pharmacy. *J. Thomas Grogger* of Parke-Davis presided at the film showing of "Going Our Way" at the May meeting. Newly elected officers are: *James P. Gillett*, President; *Dan Schrepel*, Vice President; *James Salyer*, Secretary; and *James Disque*, Treasurer.

University of Nebraska—Two Owens-Illinois Glass Company films, "Toward Better Pharmacy" and "Now for Tomorrow," were presented at the March meeting. *Rex Hegley* of the Lancaster Pharmacy Association was guest speaker at the April meeting.

University of South Carolina—Newly elected officers are: *Roy Hudgens*, President; *Horace Gault*, Vice President; *Shirley Snyder*, Secretary; and *Ronald Crawford*, Treasurer.

University of Toledo—Officers newly elected are: *Alan Baer*, President; *Manuel Wolf*, Vice President; *Sharon McGinnis*, Secretary; *Donald Geneic*, Treasurer; and *Sheldon Glass*, Sergeant-at-Arms.

University of Utah—*Dean L. David Hiner* discussed the objectives of Rho Chi Fraternity at the March meeting.

University of Wisconsin—At the April 10 meeting *Jennings Murphy*, Secretary of the Wisconsin Pharmaceutical Association, gave a talk entitled "What the State Association Has Been Doing for Wisconsin Pharmacists."

West Virginia University—A panel composed of *Paul F. Price*, dentist; *David Morgan*, general medical practitioner; *Ralph W. Ryan*, ophthalmologist, and *C. H. Troxell*, pharmacist and President of the West Virginia Pharmaceutical Association, discussed the interprofessional relations of pharmacy and medicine at the April meeting. Newly elected officers are: *Kent R. Hornbrook*, President; *Jesse S. Griffith*, Vice President: and *Margaret Winter*, Secretary-Treasurer.

MEMBERS

THE ASSOCIATION EXTENDS A CORDIAL WELCOME TO THE FOLLOWING MEN AND WOMEN WHO WERE ACCEPTED FOR ACTIVE MEMBERSHIP DURING THE MONTH PRECEDING PREPARATION OF THIS ISSUE

ALABAMA
Greene, Joseph F., Birmingham
Martin, Willard D., Montgomery

ARIZONA
Neiman, Philip, Phoenix

CALIFORNIA
Brangan, George F., Van Nuys
Haddon, John R., Santa Monica
Loynd, Elmo, Jr., San Clemente
MacDonald, Donald J., Oceanside

COLORADO
Bohe, John F., Denver
Suher, Kenneth C., Denver

DISTRICT OF COLUMBIA
Casale, Frank J.
Kramm, Harold S.

FLORIDA
Mounger, Marshall N., North Miami
Yearick, Virginia S., South Miami

ILLINOIS
Emerson, Russell S., McHenry
Fein, Marvin R., Chicago
Prizant, Milton S., Chicago

INDIANA
Albright, Frank, Indianapolis
Glenn, Richard K., Evansville
Gibson, William R., Indianapolis
Howard, Donald P., Indianapolis
Lady, Edward L., Plainfield
Owen, John E., Indianapolis
Pfisterer, Clyde H., Indianapolis
Shartle, C. F., Stilesville
Wu, John Y. P., Elkhart

KANSAS
Haskel, A. R., Merriam
Price, John H., Wichita

KENTUCKY
Williams, Ernest C., Bowling Green

LOUISIANA
Lescale, Melvin J., New Orleans
Vogt, Eugene W., Sr., Ferriday

MARYLAND
Feldman, Charles W., Baltimore

MASSACHUSETTS
Baines, Percy E., Brockton
Berg, Henry L., Worcester
Berman, Charles A., Belmont

MICHIGAN
Duncan, Herbert B., Detroit
Jakobsons, Robert O., Saginaw
Patel, Mohanlal S., Detroit
Pinto, Carlos E., Ann Arbors
Suter, Homer S., Kalamazoo

MINNESOTA
Mornik, Arlene, Minneapolis

MISSISSIPPI
McKenzie, J. D., Gulfport
Smith, Duane, Gulfport

MISSOURI
Alewel, Douglas, Higginsville
Bloome, Lyndal A., Lemay
Smith, Arley R., Springfield

NEBRASKA
Jessup, Lee W., Nebraska City

NEW HAMPSHIRE
Hannan, Grace E., Jaffrey
Yenovkian, Joseph M., Manchester

NEW JERSEY
Blandino, Samuel T., Madison
Breslow, Harold, Cedar Grove
Cardaciotto, Paul S., Trenton
Palermo, Blaze T., Rahway
Walker, Thomas R., Lincroft
Ziegler, Albert J., Paramus

NEW YORK
Bell, Charles F., Locust Valley
Burdett, Paul F., Pearl River
Calitri, Michael A., Long Island City
Goldberg, Raymond, Wantagh
Halpern, Alvin, Glen Cove
Miller, Samuel D., New York City
Sanders, David H., Island Park
Stone, James S., Brooklyn
Young, Agnes G., Flushing, L. I.

NORTH DAKOTA
James, Evangeline B., Fargo

OHIO
Beebout, Howard E., Lima
Jett, Quartense, Cleveland
Liebnau, Alton F., Toledo
Schaefer, Elizabeth B., Columbus
Schaeffer, William H., Cincinnati
Wheeler, Nancy W., Chagrin Falls

OKLAHOMA
Kearns, Hugh A., Fort Gibson

PENNSYLVANIA
Burns, Riley W., Philadelphia
Gennaro, Alfonso R., Philadelphia
Hansmann, William G., Indiana
Koff, Harry E., Philadelphia
Kushner, Morris, Broomall
Livengood, Clarence W., Johnstown
Mantini, Thomas A., Philadelphia
Monticelli, Nazareno E., Philadelphia
Newland, Charles B., Pittsburgh
Rock, William C., Pittsburgh
Sandala, James E., Pittsburgh
Sweeney, Patrick J., Philadelphia
Witmer, William F., Oreland

SOUTH CAROLINA
Galgano, Don A. F., Columbia

TENNESSEE
Bratten, Jane H., Nashville
Heard, William P., Memphis
Newman, Jesse L., Mountain Home

TEXAS
Alldredge, Leslie E., Midland
Altwein, Virgil C., Baytown
Bush, Bettie Jean, San Antonio
Coulson, Ray K., Lubbock
Goddard, David W., Bastrop
Highsmith, Robert V., Sr., San Angelo
MacDonald, Yvonne J., Galveston
Mathis, Norma K., Galveston
Nelson, Alton A., Odessa
Nelson, Robert C., Paris
Reed, Janie L. J., Houston
Ruddy, William J., Fort Sam Houston
Swan, Herbert E., North Uvalde
Waggoner, Cecil L., Bellaire
Warnick, John Q., Lubbock
Wheeler, John E., Jr., Dallas

UTAH
Anderson, Charles H., Logan
Arnold, Hobart M., Salt Lake City
Bawden, John L., Salt Lake City
Berntsen, E. Farnes, Salt Lake City
Bullock, Victor C., Salt Lake City
Cluff, Warren O., Salt Lake City
Esperson, Bonnie Jane, Midvale
Hall, Reid J., Salt Lake City
Italasano, John G., Midvale
Johnston, Jacob A., Salt Lake City
Nokes, Charles H., Bountiful
Schnitker, Frank T., Salt Lake City
Spencer, J. Raymond, Salt Lake City
Wallace, Frank M., Salt Lake City

VERMONT
McGregor, George R. J., Burlington

VIRGINIA
Babcock, Jack E., Arlington
Kaiser, Carl, Charlottesville
Quinn, James R., Petersburg
Rorrer, Thomas W., Jr., Richmond

WASHINGTON
Becker, Troy E., Seattle
Collins, Tom, Seattle
Deacon, Ralph W., Bellevue
Ernst, Rudolph, Jr., Mercer Island
Fagg, B. Grant, Seattle
O'Connor, Bernard W., Seattle
Tennant, Hugh R., Seattle
Zapp, Beverly, Vancouver

WEST VIRGINIA
Ralston, Minter B., III, Weston
Turner, James L., Fairmont

WISCONSIN
Jones, Donald E., Greendale
MacNaughton, Wallace R., Green Bay
McFarland, Andrew E., Watertown
Schaefer, Donald W., Madison
Sister M. Damian Braun, Manitowoc

TERRITORIES
Badillo-Vadi, Carlota, Santurce, P.R.
Higgins, Donald G., Lanikai, Hawaii

INTERNATIONAL
Calcagno, Luigi, Milano, Italy
Kapoor, S. K., Delhi, India
Ko, In Suk, Seoul, Korea
Maxwell, Fred A., Windsor, Ont., Canada
Mouasher, Anis, Amman, Hashemite Kingdom of Jordan
Munzel, Kurt, Basle, Switzerland
Sager, Hans, Basle, Switzerland
Von Schlichtegroll, Ansgar, Bad Homburg, West Germany

Coming Events

Hospital Pharmacy Institute—August 19–23, Chicago, Ill. Sponsor: American Hospital Association.

International Symposium on Curare and Curarizing Substances—August 1957, Rio de Janeiro, Brazil.

American Association of Colleges of Pharmacy—9th annual Teachers' Seminar—July 14–19, University of Washington, Seattle

Hospital Pharmacy Institute—June 24–28, Seattle, Wash. Sponsor: American Hospital Association.

International Pharmaceutical Federation—17th International Congress on Pharmaceutical Sciences—September 12–14, Leiden (or Amsterdam). The Netherlands.

Federal Wholesale Druggists' Association—September 22–25, Greenbrier Hotel, White Sulphur Springs, W.Va.

Symposium on Antibiotics—October 2–4, Washington, D.C.

4th Pan-American Congress of Pharmacy and Biochemistry—November 3–9, Washington, D.C.

American Public Health Association—November 11–15, Cleveland, Ohio.

℞ INFORMATION SERVICE

Members of the AMERICAN PHARMACEUTICAL ASSOCIATION are invited to submit their professional problems to The Editor of the PRACTICAL PHARMACY EDITION, 2215 Constitution Ave., N. W., Washington 7, D. C. Inquiries should include all pertinent details.

Ancolan

Can you help us with a British prescription for a drug named Ancolace or Ancolase. It is an antihistamine.—M. C., District of Columbia.

No reference to a drug named Ancolace or Ancolase could be found. A drug marketed by British Drug Houses is listed in *Gehes Codex* as Ancolan with the generic name given as meclozin and with the chemical name 1-*p*-chlorbenzhydryl-4-*m*-methylbenzyl piperazine. The dihydrochloride of this compound is included in N.N.R. as meclizine hydrochloride, and it is available in the U.S. as Bonamine hydrochloride (Pfizer).

[*Editor's Note: M. C. later stated that the ending of the written word was more probably "an" than the "ace" or "ase" suggested earlier.*]

Excipient for Tablets of 3-Chloromercuri-2-methoxypropylurea

What excipient should be used and how should the granulations be prepared to make tablets of 3-chloromercuri-2-methoxypropylurea?—A. C., Brazil.

The compound 3-chloromercuri-2-methoxypropylurea is manufactured by the Lakeside Laboratories and is distributed under the trade name Neohydrin in the form of tablets. Lakeside Laboratories would probably be the source of the drug and that company would be the only reliable source of information regarding the preparation of the tablets.

Propylthiouracil: Warning Label?

A physician objects to a warning label (supplied by manufacturer) placed on the container of a prescription for propylthiouracil. What is the position of the FDA in this matter?—W. A., Florida.

The Federal Drug Administration holds that, although thiouracil is considered to be a dangerous drug and should bear a warning statement on the prescription container, the relatively low toxicity of the propyl derivative removes it from the dangerous drug classification and its container need not bear the warning statement. The N.N.R. monograph on propylthiouracil states: "Propylthiouracil is capable of producing adverse reactions in some patients. The incidence and severity of these reactions are unpredictable but their occurrence is less frequent than following medication with the parent compound, thiouracil." FDA opinion places responsibility for the decision to have a warning statement on prescription labels directly on the physician, except in special instances.

Schlessinger's Solution

Can you tell us what is wanted on a prescription for Schlessinger's Solution?—L. W. L., California.

The following formula for Schlessinger's Solution is included in *The Parmaceutical Recipe Book*, 3rd ed., APhA, 1943: Scopolamine HBr, 0.25 Gm.; morphine HCl, 20 Gm.; ethylmorphine HCl, 40 Gm.; ampul water, a sufficient quantity to make 1,000 cc. Dissolve, filter, and sterilize.

There is a very slight possibility that the request refers to Schlessinger's Solutions used in the diagnostic test for urobilin. If the prescription includes directions for administration, then the former solution is definitely indicated for its analgetic action.

Sulfoderm Puder

Can you tell us if a product Sulfoderm Puder or a similar product is available in the U.S.?—T. A., New Mexico.

Sulfoderm Puder is listed in *Gehes Codex* as a product containing 1% colloidal sulfur in an inert diluent. It is manufactured by Heyden in Munich, Germany, and is not available in the U.S. A product marketed as Sulfur Diasporal Powder by The Doak Company, Inc., 11 West 42 St., New York 36, N.Y., is stated to contain 2% colloidal sulfur with magnesium silicate 98%.

Information on Khat

What is Khat and where can I find a reference to it?—C. L. G., Virginia.

Khat is one of the various Arabic names for *Catha edulis* leaves (Abyssinian or African tea) which are used as a stimulant in northern Africa. A description of the plant and its constituents is given in the U.S. Dispensatory, 25th ed., p. 1619.

Communicable Diseases Summary

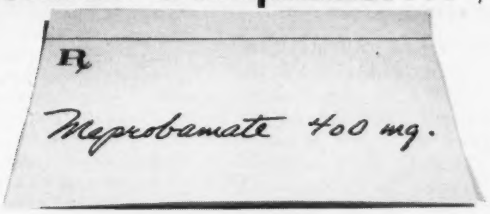
THE number of cases of the communicable diseases shown in the table below are based on reports by Health Officers of each State and of Alaska, Hawaii, and Puerto Rico to the National Office of Vital Statistics of the Department of Health, Education, and Welfare, Washington, D.C. The number of cases of each disease occurring during each of the last 4 weeks are reported and also cumulative totals to date for 1957 and for the corresponding period of 1956, as well as the 1952–1956 median for this same period. The approximate seasonal low point for each of the diseases is shown in the last column.

Communicable Disease	Cases Reported for Week Ending				Cumulative Number			Low Point (Approximate Seasonal)
Selected Notifiable Disease	*April 20, 1957*	*April 27,[a] 1957*	*May 4, 1957*	*May 11, 1957*	*First 19 Weeks 1957*	*First 19 Weeks 1956*	*Median 1952–1956*	
Anthrax	—	1[b]	1[d]	1[e]	10	25	14	[g]
Botulism	—	—	—	—	—	—	5	[g]
Brucellosis (undulent fever)	21	20	16	22	346	340	535	[g]
Diphtheria	11	19	15	9	380	679	729	July 1
Encephalitis, infectious	31	31	35	44	468	509	466	June 1
Hepatitis, infectious and serum	314	294	312	385	7,052	9,361	12,595	Sept. 1
Malaria	3	1	1	—	29	64	136	[g]
Measles	20,794	19,729	22,977	21,153	312,669	377,051	380,378	Sept. 1
Meningococcal infections	43	68	56	52	1,000	1,317	2,092	Sept. 1
Meningitis, other	25	28	44	37	623	557	———	———
Poliomyelitis	32	48	40	71	783	1,546	1,801	Apr. 1
Paralytic	12	17	18	26	382	841	———	Apr. 1
Nonparalytic	17	24	17	38	282	430	———	Apr. 1
Unspecified	3	7	5	7	119	275	———	Apr. 1
Psittacosis	4	7	12	6	104	153	82	[g]
Rabies in man	—	1[c]	—	1[f]	2	5	3	[g]
Typhoid fever	12	19	27	12	361	541	541	Apr. 1
Typhus fever, endemic	2	1	2	2	33	29	49	Apr. 1

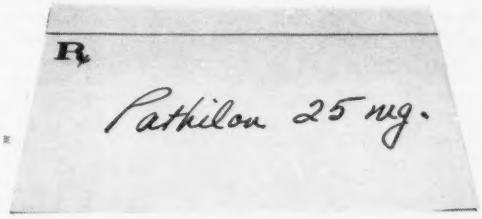
[a] Data exclude report from Idaho for the current week. [b] Reported in Pa. [c] Reported in Calif. [d] Reported in Oreg. [e] Reported in Mass. [f] Reported in S.C. [g] Data show no pronounced seasonal change in incidence. Symbols: 1 dash (—), no cases reported; 3 dashes (———), data not available.

NEW

The most widely prescribed tranquilizer...



...has been combined with the anticholinergic noted for its low toxicity and high effectiveness...



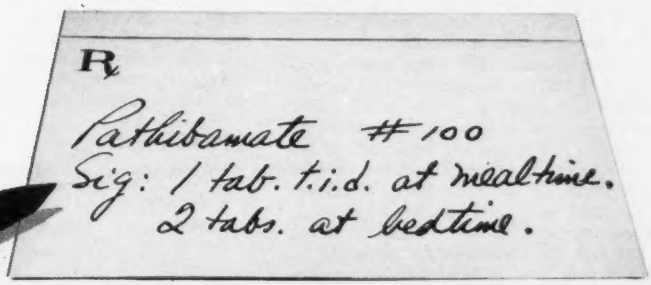
...for improved control of many gastrointestinal disorders and their "emotional overlay"

PATHIBAMATE*

Meprobamate with PATHILON® LEDERLE

Each tablet contains Meprobamate 400 mg. and PATHILON *25 mg.*

PACKAGES	PRICE TO RETAILER
Bottle of 100	$ 8.68
Bottle of 1000	$82.02



Take a good look at this prescription. You'll be seeing lots of them soon, thanks to heavy detailing and advertising. Don't be caught short—order now.

Lederle LEDERLE LABORATORIES DIVISION, AMERICAN CYANAMID COMPANY, PEARL RIVER, NEW YORK

*TRADEMARK

®REGISTERED TRADEMARK FOR TRIDIHEXETHYL IODIDE LEDERLE

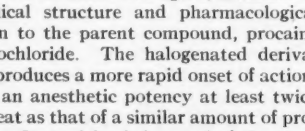
NEW & NONOFFICIAL DRUGS

N.N.R. Now N.N.D.

Monographs and supplemental statements on drugs appearing in this department of THE JOURNAL are obtained from the material published by the A.M.A. Council on Drugs (formerly Council on Pharmacy and Chemistry). This material appears in the columns of *J. Am. Med. Assoc.* devoted to New and Nonofficial Drugs (formerly New and Nonofficial Remedies). See Editorial, THIS JOURNAL, April issue, page 206.

Chloroprocaine Hydrochloride

Nesacaine HCl (Maltbie); β-diethylaminoethyl 2-chloro-4-aminobenzoate HCl.



Actions and uses: Chloroprocaine HCl, a local anesthetic agent, is similar in chemical structure and pharmacological action to the parent compound, procaine hydrochloride. The halogenated derivative produces a more rapid onset of action, with an anesthetic potency at least twice as great as that of a similar amount of procaine. Its toxicity is low and of the same order of magnitude as that of procaine; the toxic effects are qualitatively similar. The drug produces little vasoconstriction; therefore, its toxicity may be appreciably decreased if absorption is slowed by administration in admixture with pressor agents, such as epinephrine. Chloroprocaine, like procaine, is hydrolyzed by plasma cholinesterase. The hydrolysis of the chlorinated derivative proceeds more rapidly than that of the parent compound, and the concentration of cleavage products liberated from therapeutic doses is innocuous. The drug is not an efficient local anesthetic for topical application to the skin or mucous membranes.

Chloroprocaine HCl, either with or without the addition of epinephrine in suitable dilution, is useful as a local anesthetic in minor as well as in general surgical procedures. The drug has been successfully employed to produce analgesia or surgical anesthesia by the techniques of infiltration, field block, and regional nerve block, including caudal and epidural block. Although its usefulness for these procedures has been sufficiently well demonstrated to warrant its trial, only subsequent clinical experience will determine its ultimate toxic potentialities as compared to those of longer established agents, such as procaine and tetracaine HCl. The use of chloroprocaine HCl for continuous peridural and spinal (subarachnoid) anesthesia has not been evaluated.

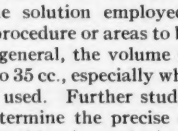
Dosage: Chloroprocaine HCl is injected at various sites according to the type of local anesthesia to be produced. Because of rapid absorption and danger of untoward reactions, the dosage must be reduced when the drug is used without epinephrine. As with other local anesthetic agents, the dosage of chloroprocaine HCl must be adjusted according to the need of the patient and the purpose for which anesthesia is required.

For infiltration anesthesia, a 1% solution in admixture with a 1:200,000 dilution of epinephrine HCl is ordinarily used, the volume injected depending on the anatomic site and the extent of area to be anesthetized. For most procedures, volumes ranging from 2 cc. to a maximum of 75 cc. will usually suffice. Should larger volumes be necessary, as in theracoplasty, the concentration of the chloroprocaine solution per unit volume should be correspondingly reduced. For regional nerve blocks, the volume and concentration of the agent vary according to the site and structure concerned, for example, 25 cc. of a 2% concentration for brachial plexus block and 3 cc. for cervical block. Except for anesthesia of the nose, ears, fingers, toes, and scrotal areas, the agent should be injected with a 1:200,000 dilution of epinephrine hydrochloride. Epinephrine should be withheld if cyclopropane, trichloroethylene, ethyl chloride, or other anesthetics containing halogen are to be employed.

For single-injection caudal (extradural sacral) block, the dose of chloroprocaine HCl usually employed is 20 cc. of a 2% solution containing epinephrine 1:200,000. For caudal-transsacral block, 5 cc. of a 2% solution with epinephrine 1:200,000 is injected into each sacral foramen, and 20 cc. of the same solution is introduced into the caudal canal. For epidural anesthesia by the single dose technique, both a 2% and 3% solution have been used, with and without added vasoconstrictors. The volume injected varies with the concentration of the solution employed and the operative procedure or areas to be anesthetized. In general, the volume should not exceed 25 to 35 cc., especially when the 3% solution is used. Further study is necessary to determine the precise dosage for continuous epidural anesthesia.

Glutethimide

Doriden (Ciba); 2-ethyl-2-phenylglutarimide.



Actions and uses: Glutethimide, a central nervous system depressant, is used as a hypnotic and sedative. It produces alterations in the electroencephalographic pattern similar to those observed after administration of chloral hydrate or barbiturates. The onset of action begins about half an hour after administration of hypnotic doses and generally lasts from 4 to 8 hours. Thus, the drug is similar in onset and duration of action to the short-acting barbiturates such as pentobarbital sodium. Little is known about its metabolic fate.

Glutethimide is reported to be useful for the induction of sleep in patients with simple and nervous insomnia. Since it is short-acting, it may also be administered to patients who waken during the night. In general, the incidence of hangover is low; however, if the drug is administered during the night, some residual depression may persist. It is not effective alone as a hypnotic in the presence of pain or in patients who are extremely disturbed. On the basis of currently available evidence, it would appear that glutethimide is about as effective a hypnotic as the usually employed short-acting barbiturates but that it possesses no particular advantage over the latter except in patients who cannot tolerate barbituric acid derivatives.

Glutethimide also has been employed as a preoperative sedative and as a daytime sedative in patients with anxiety-tension states. The evidence available to date, however, is not sufficient to permit a definite conclusion regarding its ultimate usefulness for these purposes.

After administration of therapeutic doses, the principal side-effects reported to date have included skin rash, infrequently, and nausea; the latter condition is usually not severe enough to necessitate discontinuation of medication. Acute toxic effects resulting from accidental or deliberate overdosage are similar to those of all hypnotic drugs, and treatment of such intoxication should follow the same general scheme as for barbiturate poisoning. It is not known whether the drug possesses addicting potentialities, but, on the basis of present knowledge, this appears unlikely. Nevertheless, in the absence of sufficient evidence on the effects of repeated use of glutethimide in man or experimental animals, its long-term clinical use should be approached cautiously.

Dosage: Glutethimide is administered orally. The usual hypnotic dose for adults is 0.5 Gm. at bedtime. This may be repeated once during the night but not less than 4 hours before arising. For daytime sedation, doses of 0.25 Gm. three times daily, after meals, have been employed. Doses of 0.5 Gm. the night before surgery and 0.5 to 1 Gm. one hour before anesthetization have been used for preoperative sedation. Dosage for children for all indications is reduced proportionately.

SUPPLEMENTAL STATEMENTS

Erythromycin, Intramuscular Use

The Council concluded that i.m. administration of erythomycin (Ilotycin) is justified in certain situations. Thus, the antibiotic may be used for the treatment of severe infections caused by beta-hemolytic streptococci, pneumococci, and micrococci and in patients who are allergic

to penicillin or whose organisms, notable micrococci, are resistant to penicillin but sensitive to erythromycin. For therapy of the susceptible infections, intramuscular administration should be reserved for patients in whom oral medication is not feasible or intravenous administration of soluble salts of the drug is difficult or impractical. These limitations are necessitated by the pain that the drug may produce at the site of injection. Although sterile abscess formation and other signs of local tissue irritation ordinarily are not observed after the usual doses, pain and induration may follow intramuscular administration of larger doses.

When indicated, erythromycin is administered by deep intramuscular injection, preferably in the gluteal muscles or the outer aspect of the thigh, in average doses of 100 mg. (2 cc. of a solution containing 50 mg. per cubic centimeter). This may be repeated at 4 to 6 hour intervals as needed and as tolerated by the patient. No more than 4 cc. of the solution should be injected at one time, and the site of administration should be changed for each subsequent injection. Administration in the arm muscles should be avoided because of associated pain. In general, the use of erythromycin given intramuscularly in infants should be avoided because of the relatively small muscle mass. In those instances in which the intramuscular administration of erythromycin is necessary in infants, proportionately smaller doses should be used.

Use of Bethanechol Chloride for Paralytic Ileus and Urinary Retention After Ganglionic Blockade

The Council has approved the additional use of the parasympathomimetic (cholinergic) agent bethanechol (Urecholine) chloride for the treatment of paralytic ileus and urinary retention caused by the parasympatholytic action of certain ganglionic blocking agents used in the treatment of hypertension. These complications can result from hypersensitivity to the drugs, overdosage, or, in the case of ileus, inadequate dietary and/or laxative management. Bethanechol previously has been described as useful for the treatment of postoperative abdominal distention and paralytic ileus, and also for neurogenic atony of the urinary bladder with retention. The blocking agents against which it is useful include the salts of hexamethonium and mecamylamine hydrochloride. Whenever possible, cholinergic therapy with bethanechol chloride should be initiated before the appearance of acute symptoms. For these indications, bethanechol chloride may be administered orally, sublingually, or subcutaneously (never intramuscularly or intravenously), the oral or sublingual route being preferred unless symptoms are unusually severe. Dosage must be individualized according to severity of symptoms and degree of response. The administration of 10 mg. orally or sublingually three times daily appears to be the most commonly employed dosage. The usual subcutaneous dose is 5 mg.; however, since some patients may experience side-effects and respond to as little as 2.5 mg., the latter should be used as an initial parenteral dose and the minimum effective dose determined for each patient by observing the response to injections at intervals of 15 to 30 minutes.

Intravenous Use of Gitalin (Amorphous)

The Council concluded that the intravenous injection of this glycoside preparation is useful for the rapid digitilization of adult patients in whom the oral route is not feasible, especially those with acute, congestive cardiac decompensation. The average initial dose by this route is 2.5 mg. twice in 24 hours. The usual total digitalizing dose is about 5 to 6 mg. After full digitilization, when maintenance by the parenteral route is indicated, intravenous administration of doses as high as 2.5 mg. twice weekly have been used, although intravenous injection of 0.5 mg. daily may be adequate. However, oral maintenance therapy of 0.5 mg. daily should be substituted as soon as possible. Intravenous administration should be done with caution and in reduced dosage if the patient has received other digitalis drugs within the previous 2 weeks.

Metaraminol Bitartrate as a Vasopressor Agent

The sympathomimetic amine metaraminol bitartrate (Aramine bitartrate) has been recognized previously as a useful local vasoconstrictor agent for intranasal application to control nasal congestion. On the basis of additional evidence, the Council concluded that the systemic effects of metaraminol bitartrate, when injected parenterally, indicate its usefulness as a pressor agent in acute hypotensive states. Because of a more gradual onset and prolonged duration of action, maintenance of blood pressure with metaraminol is generally more smooth and is subject to fewer of the abrupt variations and excessive responses sometimes observed with other pressor agents. In addition, the drug is not irritating to the tissues and may therefore be administered subcutaneously; accidental extravascular deposition during intravenous therapy has not produced the abscess formation, tissue necrosis, or sloughing produced by some of the other systemic vasopressors. Metaraminol bitartrate is useful for parenteral administration in hypotensive episodes during surgery, for sustaining blood pressure in patients under general or spinal anesthesia, and for the treatment of shock associated with trauma, septicemia, infectious diseases, and adverse reactions to medication. Most authorities also agree that a drug, such as metaraminol bitartrate, which exerts both a mildly positive inotropic effect on the heart and a moderate peripheral vasoconstriction without a tendency toward cardiac arrhythmias, is useful for the adjunctive management of shock accompanying myocardial infarction. In moderate hypotension secondary to hemorrhage, cautious administration of metaraminol bitartrate may be of value as a temporary expedient before blood and fluid replacements are available, or as adjunctive therapy in those patients who do not obtain a prompt and adequate response to blood and parenteral fluids. Although metaraminol does not appear to induce cardiac arrhythmias, its use should generally be avoided during cyclopropane anesthesia. As with all agents causing peripheral vasconstriction, metaraminol bitartrate should be administered cautiously to all patients with heart and thyroid disease, hypertension, or diabetes.

For systemic use as a vasopressor agent, the route of parenteral administration and dosage will vary according to the urgency of the situation and the needs of the individual patient. As a general guide, doses of 2 to 10 mg. (0.2 to 1 cc. of a sterile solution containing 10 mg. per cc.) may be injected subcutaneously or intramuscularly. For more rapid effects, metaraminol bitartrate may be administered by intravenous infusion. For this purpose, 15 to 100 mg. (1.5 to 10 cc. of a sterile solution containing 10 mg. per cc.) is diluted with 500 cc. of isotonic sodium chloride solution or 5% dextrose in water for injection and administered by continuous intravenous drip at a rate adjusted to maintain pressure. In severe shock, when time is of great importance, 0.5 to 5 mg. (0.05 to 0.5 cc. of a sterile solution containing 10 mg. per cc.) of the drug may be administered by direct intravenous injection. This method of administration should be employed only in instances of grave emergency, and extreme care must be given to proper dosage.

With the prolonged duration of action of metaraminol bitartrate, there is the possibility of a cumulative effect. If an excessive vasopressor response is obtained, the blood pressure may not drop rapidly enough when therapy is discontinued. As the maximum effect of metaraminol bitartrate is not immediately apparent, at least 10 minutes should elapse before the dosage is increased.

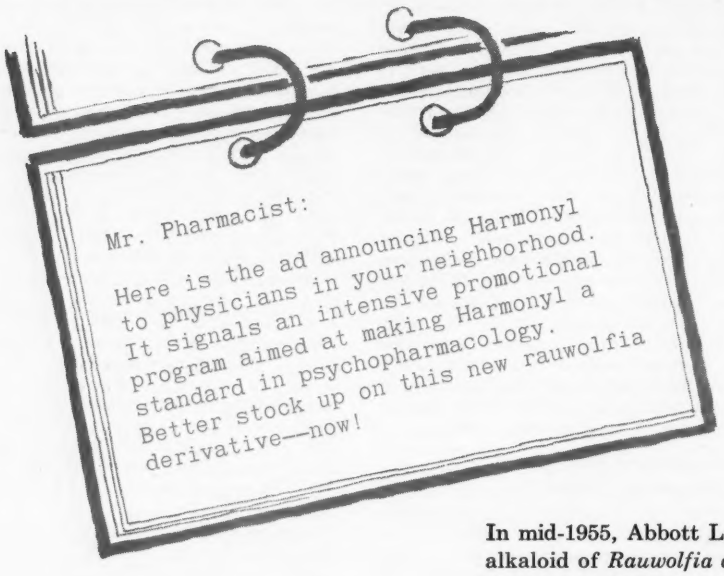
Dimenhydrinate (i.m.) for Postoperative Nausea and Vomiting

The Council has evaluated the use of dimenhydrinate administered intramuscularly for the prevention and control of postoperative and postanesthetic nausea and vomiting. The Council found it difficult to arrive at a definite conclusion that would apply to all cases. The majority of experts in this field seem to agree, however, that even if a slight reduction in postoperative nausea and vomiting can be proved statistically, the disadvantages of hypotension and longer postoperative sleeping time caused by administration of dimenhydrinate may conceivably outweigh its usefulness for this purpose.

Only the intramuscular route has been employed for the prevention and control of postoperative nausea and vomiting. The usual doses for adults vary. Some clinicians inject 50 mg. before surgery, 50 mg. after surgery, and then 50 mg. every 4 hours for four doses. For children under 5 years of age, all dosages are reduced to 25 mg. Other clinicians have employed a standard dose of 100 mg. for adults, injected shortly before completion of surgery.

The Council voted to amend the monograph on dimenhydrinate in N.N.R. accordingly to describe the intramuscular use of the drug for postoperative nausea and vomiting.

Announcing a unique new rauwolfia derivative...


Mr. Pharmacist:
Here is the ad announcing Harmonyl to physicians in your neighborhood. It signals an intensive promotional program aimed at making Harmonyl a standard in psychopharmacology. Better stock up on this new rauwolfia derivative—now!

In mid-1955, Abbott Laboratories released for clinical trial a new alkaloid of *Rauwolfia canescens*. This new alkaloid, later named Harmonyl, received special attention because of the high potency and low toxicity it exhibited in pharmacological testing.

Since that time, Harmonyl has been tried in conditions ranging from mild anxiety to major mental illnesses and in hypertension. Every characteristic of the drug was studied . . . evaluated . . . compared. And from the reports, one fact stands out:

• In more than two years of clinical evaluation, Harmonyl has exhibited significantly fewer and milder side effects in comparative studies with reserpine. This, while demonstrating effectiveness comparable to the most potent forms of rauwolfia.

• Most significant: Harmonyl causes less mental and physical depression. *And there are very few reports of the lethargy seen with many other rauwolfia preparations.*

This is not to suggest, of course, that side effects will not occur with Harmonyl—as with any potent therapeutic agent. But the mildness of side effects, in the few instances in which they have been reported, suggests Harmonyl as a drug of choice in conditions ranging from mild anxiety to major mental illness and in hypertension.

Why fewer and less severe side effects?

Some investigators suggest that the evidence of less parasympathetic effect with Harmonyl in animals might also be true in man. In chronic toxicity studies with Harmonyl this was manifested by less diarrhea, "bloody tears" and ptosis in rats than was observed with the same dosage level of reserpine. Dogs also exhibited milder side effects—in particular, diarrhea. No organ toxicity or hematological change occurred over a wide dosage range.

Harmonyl as a tranquilizer

While Harmonyl's safety is most impressive, clinical investigators have reported other notable characteristics for this wide-range tranquilizer. For instance, following an eight-month study of chronic,

Harmonyl*

(Deserpidine, Abbott)

hospitalized mental patients, Ferguson[1] reported:

- Harmonyl benefited at least 15% more overactive patients than oral reserpine.
- Harmonyl was more potent in controlling aggression, requiring only one-half to two-thirds the dosage of reserpine.
- A number of patients experiencing side reactions during treatment with reserpine were completely relieved when changed to Harmonyl.

Ferguson concluded: *"The most notable impressions were the absence of side effects and relatively rapid onset of action with Harmonyl."*

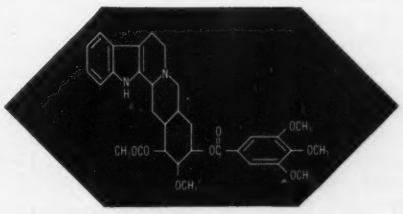
Harmonyl in hypertension

Hypertension studies show that the average reduction in blood pressure obtained with Harmonyl compares closely to that obtained with reserpine. The tranquilizing effect of the two drugs also appeared similar, except that few cases of giddiness, vertigo, sense of detached existence or disturbed sleep were seen with Harmonyl.

Dosages In mild anxiety, as little as 0.1 mg. of Harmonyl a day may be effective. In institutionalized psychiatric patients, not less than 2 to 3 mg. a day is likely to be beneficial.

In mild essential hypertension, treatment may be started with one 0.25 mg. Harmonyl tablet three or four times a day. After about ten days (or sooner, depending upon response), dosage may be reduced. A maintenance dose of 0.25 mg. daily is often sufficient.

Precautions, Contraindications As with other forms of rauwolfia, Harmonyl must be used cautiously in peptic ulcer and epilepsy and in patients about to undergo surgery or electroshock treatment. Despite the infrequency of reports involving depression, patients with a history of depressive episodes should be watched carefully.



Professional literature is available upon request.

Supplied: Harmonyl is supplied in 0.1-mg., 0.25-mg. and 1-mg. tablets.

Abbott

Reference: 1. Ferguson, J. T.: Comparison of Reserpine and Harmonyl in Psychiatric Patients: A Preliminary Report, Journal Lancet, 76:389, December, 1956.

*Trademark

708176

PROGRESS in MEDICINE

Dangers of Tranquilizers in Anxiety States

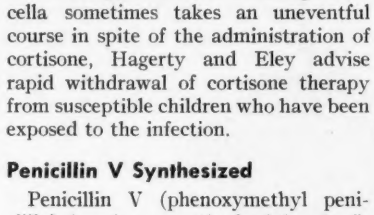
Observations of the effects of tranquilizing drugs in 8,200 patients in whom anxiety was the chief finding are reported by Drs. H. A. Dickel and H. H. Dixon, *J. Am. Med. Assoc.*, **163,** 422 (Feb. 9, 1957). The studied group was limited to people of normal physical make-up and of at least average intellectual capacity who were capable of working steadily and were complaining of tension, worry, and associated physiological disturbances. Of these, 7,500 had taken some amount of the tranquilizing drugs before they came under observation. The danger to the patient's physical health is shown by the appearance of allergic phenomena in 96, general toxic effects in 78, habituation in 72, severe liver disturbances in 31, other severe symptoms in 97, and death in 4. Two of the deaths were suicides. The danger to the patient's emotional health is shown by the finding of about 1,700 instances in which serious problems were created in essentially normal people and 827 instances in which emotional illness was aggravated. It is stated that the danger to the physician results from the accumulating pressure on the medical profession from the people who produce and those who demand these drugs. There is, fourthly, a grave danger to society in the idea that tensions should be reduced by techniques of relaxation and administration of drugs rather than by the constructive effort required for satisfying needs and removing dangers. The physician must inform himself well about these drugs and reorient his own thinking about their indications and limitations.

Dangers of Chicken-Pox

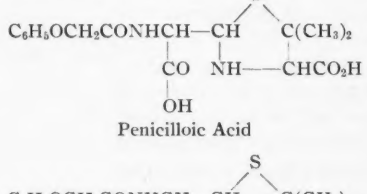
The possible dangers associated with the generally benign chicken pox are discussed in *Brit. Med. J.*, **1,** 511(Mar. 2, 1957). In infected children, complications are uncommon with seldom serious skin sepsis or respiratory infections due to secondary invasion by staphylococci or streptococci. Neurological lesions such as encephalitis, myelitis, and polyneuritis are rarely noted but inflict a mortality of 10%, coma and convulsions being the two most serious symptoms. Primary chicken-pox pneumonia can be mistaken for secondary pneumonia. Evidence that varicella may become a diffuse fulminating infection in a patient who is being treated with cortisone is reported by R. J. Hagerty and R. C. Eley, *Peaiatrics*, **18,** 160(1956). Twelve children ranging from 11 months to 8 years who had received cortisone for periods of a few days to two months were reported to have had fatal reactions. Others had severe skin lesions or an atypical rash, making early diagnosis of chicken-pox difficult. Although varicella sometimes takes an uneventful course in spite of the administration of cortisone, Hagerty and Eley advise rapid withdrawal of cortisone therapy from susceptible children who have been exposed to the infection.

Penicillin V Synthesized

Penicillin V (phenoxymethyl penicillin) has been synthesized by J. C. Sheehan and K. R. Henery-Logan as reported in *J. Am. Chem. Soc.*, **79,** 1262 (Mar. 5, 1957). The synthetic procedure cannot compete with the fermentation methods in the commercial production of penicillins but it enables molecular alterations not possible with the biological methods. The major problem was the instability of the molecule, particularly in the last stage, when penicilloic acid is cyclized to phenoxymethyl penicillin.



Penicilloic Acid



Phenoxymethyl Penicillin

The synthetic product is more acid-stable and is suitable for oral administration. The N.N.R. monograph on phenoxymethyl penicillin appeared in THIS JOURNAL, **18,** 56(Jan., 1957). Using the "mild" synthetic technique of Sheehan, ten new synthetic penicillins have been prepared at Merck Sharp & Dohme Research Laboratories and are being tested. It is hoped that the new forms will be effective against organisms resistant to natural penicillin and/or exhibit a broader antibacterial spectrum, and that they might be less likely to produce allergic reactions.

Uterine-Relaxing Hormone in Premature Labor

A clinical report on 79 pregnant patients who started uterine contractions prematurely and were treated with Lutrexin (lututrin) is given by Drs. J. T. Majewski and T. Jennings, *Obstet. and Gynecol.*, **9,** 322(Mar.; 1957). In 54 cases (68.4%) administration of the uterine-relaxing hormone halted the contractions and, by delaying delivery for several weeks, provided additional time for fetal development. The effectiveness of lututrin varies greatly with the individual. When it halts labor, it does so in an average of 4 to 6 hours. When it fails to halt labor, it leaves the uterine contractions completely unaffected. No side effects were noted in any of the treated patients.

Use and Abuse of Steroid Therapy Notably in Allergies

A review of the indications, contraindications and dangers of steroid therapy is given by Dr. R. A. Kern, *Am. J. Med. Sci.*, **233,** 430(Apr., 1957). Its proper use, Dr. Kern holds, rests upon an appreciation that (a) steroid therapy in diseases other than destruction of pituitary or adrenals is not replacement therapy providing normal daily hormone needs but symptomatic (not curative) treatment which owes its effects to doses far exceeding normal needs and, therefore, leads to commensurate degrees of hypercorticism; (b) that the administration of any corticosteroids results in diminished output of hydrocortisone by the adrenals, and if administration is prolonged, in adrenal atrophy; (c) that such atrophy, upon sudden cessation of treatment or suddenly increased stress (infection, operation) is responsible for acute absolute or relative adrenal insufficiency; (d) that short-term steroid therapy, for example, of serious acute allergic states due to known and avoidable causes, or of rheumatic fever, is highly effective and safe and, in combination with the proper antibiotic, may be lifesaving in overwhelming infections due to known bacteria against which the antibiotic is effective; (e) that prolonged therapy of chronic allergic and of other diseases of unknown etiology involves risks that must be justified by attendant major threats; for example, to sight or to life itself. Dr. Kern notes that mortality statistics in the U.S. show a sharp upswing in deaths from asthma in those over 50 since the introduction of steroid therapy and probably as a result of its use. A rising incidence of

ulcer deaths in older patients prompts greater caution in the use of so potent an ulcerogenic group of substances in those over 50.

Treatment of Glutethimide Poisoning

A case of poisoning with 10 Gm. glutethimide (alpha-phenyl-alpha-ethyl-glutarimide, Doriden) and 4.8 Gm. aspirin is reported by N. R. Rowell, *Lancet*, **1,** 407(Feb. 23, 1957). The patient's frequent short-lived attacks of laryngeal and tetanic limb spasm were attributed to glutethimide. Treatment with bemegride (Megimide) and amiphenazole (Daptazole) resulted in the return of reflex activity, increased respiration, and caused transient alteration in the electroencephalogram. Two other cases of glutethimide poisoning that were treated successfully with bemigride and amiphenazole are cited, and these drugs are recommended for such cases.

Radioactive Isotopes in Diagnosis and Therapy

This review of the medical applications of radioisotopes is particularly useful for the pharmacist who has been out of touch with the development of this phase of pharmaceutical education. The writer, E. H. Belcher, *Pharm. J.*, **178,** 149(March 2, 1957), presents clear and simplified definitions of terms and the scope of his material is concisely established by the introductory sentences in each section. Some of the most fruitful applications of radioactivity lie in the field of medical diagnosis and therapy. Radioactive isotopes are used simply as sources of radiation. Their atoms behave chemically exactly as do the atoms of the normal element. The principles of the involved nuclear physics (beside the production by *decay* or *disintegration* of *alpha* and/or *beta* particles and *gamma* rays) are illustrated with the element carbon with atomic number 6. "Carbon has two stable isotopes with mass numbers 12 and 13 respectively, written symbolically C_6^{12} and C_6^{13} respectively. Since all atoms of carbon necessarily have the same atomic number, it is convenient to omit the subscript defining atomic number and refer to these isotopes as simply C^{12} and C^{13}; some writers use the nomenclature C 12 and C 13. Naturally occurring carbon contains 98.5 per cent of C^{12} and 1.5 per cent of C^{13}. Carbon also has two radioactive isotopes with mass numbers of 11 and 14 respectively, both disintegrating by beta-decay. These are written C^{11} and C^{14}." The rate at which a radioisotope disintegrates depends on the degree of instability of its atomic nuclei. The active isotopes are produced in a number of ways, all depending on the bombardment of inactive material by high energy protons, neutrons, and other particles.

The use of radioisotopes in medicine involves the radioactive assay of samples of blood, excreta and tissue specimens, and, in many cases, the direct measurement of *in vivo* uptake of radioactive materials in organs of the body with highly sensitive measuring devices. The following tabulation by Belcher lists some radioisotopes and indicates their more important medical applications.

RADIOISOTOPES AND THEIR MEDICAL APPLICATIONS

Isotope	Type of Radiation	Half-life	More Important Uses
H-3	β	12.5*y**	Total body water determination.
C-14	β	5600*y*	Red cell life span studies. Biochemical research.
Na-24	β, γ	15*h*	Sodium space measurement. Circulation studies.
P-32	β	14*d*	Blood volume determination. Localization of tumors. Superficial therapy.
K-42	β, γ	12*h*	Potassium space measurement. Localization of tumors.
Cr-51	β, γ	28*d*	Blood volume determination. Red cell life span studies.
Fe-59	β, γ	45*d*	Iron metabolism studies.
Co-60	β, γ	5.3*y*	Vitamin B_{12} studies. Teletherapy.
As-74	β, γ	17*d*	Localization of tumors.
Br-82	β, γ	36*h*	Cavity therapy.
Sr-90	β	25*y*	Superficial therapy.
I-131	β, γ	8.0*d*	Thyroid studies. Thyroid therapy.
Cs-137	β, γ	33*y*	Teletherapy.
Ta-182	β, γ	111*d*	Implantation therapy.
Au-198	β, γ	2.7*d*	Implantation therapy. Cavity therapy.

* *y* = year; *d* = day; *h* = hour

Other articles on "Some Aspects of Radioisotope Therapy of Interest to Pharmacists," on "Preparing Pharmacy for Its Role in Atomic Medicine," and "The Hazards of Atomic Radiation" were published in THIS JOURNAL, **15,** 360(June 1954); **16,** 622(Oct. 1955); and **17,** 461(July 1956).

"Mood" Therapy in the Aged

Observations during the treatment of 355 older patients (65 or over) with pentylenetetrazol (Metrazol) (for senility cases) and the tranquilizers, reserpine (Serpasil), rauwolfia (Raudixin), chlorpromazine (Thorazine), promazine (Sparine), and meprobamate (Miltown, Equanil), are reported by Dr. J. O. Smigel, *Med. Times*, **85,** 149(Feb., 1957). Desirable effects and untoward reactions were noted, but it is concluded that in prescribing these drugs, environmental, situational, social, and societal factors, as well as somatic and psychological factors, must be considered. Most of the tranquilizers are useful in the anxiety states but they should not be prescribed *ad lib* or at the patient's discretion, since it is exactly then that discretion is lacking. "Measures other than the tranquilizers may give more permanent and less danger-fraught results and—above all—each patient must be individually evaluated, treated, and watched."

Reserpine in Alcoholism

A study in which 180 ambulatory chronic alcoholic patients were treated with reserpine or placebo in 145 blind tests is reported by Dr. R. E. Wells, *J. Am. Med. Assoc.*, **163,** 426(Feb. 9, 1957). The final comparison involved 33 patients who received the placebo and 112 patients who received either 0.25 mg. or 0.5 mg. of reserpine by mouth twice a day. Whether a given patient was receiving reserpine or the placebo was known to the druggist and secretary, but not to the patient or his physician. At the conclusion of the period of study, the 112 patients who received reserpine, of 80 (71%) were reported as slightly improved, moderately improved, or well, of the 33 (21%) who received the placebo, only 7 were so reported. Improvement was considered significant in more than half of the patients who received reserpine.

Streptovaricin in Tuberculosis Therapy Trial

Streptovaricin, an antibiotic isolated from the culture of a form of Streptomyces found in a soil sample from Dallas, Tex., has shown striking activity against the tubercle bacillus. It is now being tested clinically. The Veterans Administration has started a study in 10 hospitals to determine the effectiveness of streptovaricin in combination with isoniazid for patients who still have lung cavities after other treatment, and to learn whether the drug can retard the development of resistance to isoniazid by TB germs. Streptovaricin is being supplied for clinical trial as Dalacin by The Upjohn Company.

PRESCRIPTION PRACTICE

NEW PRESCRIPTION PRODUCTS

All actively promoted items on which information has been received in the past thirty days are reported here. Manufacturers are urged to send details of their new products as early as possible, so that pharmacists through these pages will have full information before products are detailed to the physician. For inclusion in this department, for which there is no charge, send descriptive literature to the Editor, New Prescription Products Department, JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, 2215 Constitution Avenue, N.W., Washington 7, D. C.

Cathocillin Forte Capsules

Description: Each green and white capsule contains: sodium novobiocin equivalent to 250 mg. novobiocin (Cathomycin), and potassium penicillin G 150 mg. (250,000 u.).

Indications: For combined wide-spectrum antibiotic activity.

Administration: 1 capsule 4 times daily. For children, based on 10 mg. novobiocin per lb. of body weight per day, in divided doses; e. g., children up to 12 years, 1 to 4 capsules daily, in divided doses, depending on weight.

Form Supplied: Bottles of 16 and 100.

Source: Merck Sharp & Dohme, Philadelphia, Pa.

Halotestin Tablets

Description: Tablets containing, in each, 2 mg. or 5 mg. fluoxymestrone (9-alpha - fluoro - 11 - beta - hydroxy - 17-methyltestosterone).

Indications: Orally effective androgenic-anabolic agent in the treatment of eunuchs and testicular hypofunction in the male. Useful in the female for control of menorrhagia and metrorrhagia and for palliative therapy in advanced inoperable carcinoma of the breast. Studies indicate that fluoxymestrone has 5 times the anabolic and androgenic activity of methyltestosterone.

Administration: Orally in single daily dose or in divided (3 or 4) doses. For replacement therapy in eunuchs, 2–10 mg.; for lesser testicular hypofunction, 2.5–5 mg. For anabolic effect, 4–10 mg. For palliative therapy in advanced inoperable carcinoma of the breast, 6–20 mg. daily. In menorrhagia, 5–10 mg. daily for 1 week prior to onset of menstruation. In metrorrhagia, 5–10 mg. daily until bleeding is controlled, then decrease to 2.5–5 mg. daily and continue until just prior to the expected onset of the next menstrual period.

Form Supplied: 2-mg. tablets in bottles of 100; 5-mg. tablets in bottles of 50.

Source: The Upjohn Co., Kalamazoo, Mich.

Harmonyl Tablets

Description: Tablets in 3 strengths containing, in each, 0.1, 0.25, or 1 mg. of Harmonyl (deserpidine, 11-desmethoxyreserpine).

Indications: For tranquilizing disturbed or overaggressive patients with mild anxiety tension to hyperactive psychotics, and in mild essential hypertension or with more potent agents in severer cases. Patients with a history of depressive episodes should be watched carefully. Use cautiously in peptic ulcer and epilepsy, and before surgery or electroshock treatment.

Administration: Orally, in mental disturbance, 0.1 to 0.3 mg. daily; in mild essential hypertension, 0.25 mg. 3 or 4 times daily for 10 days or less, then 0.25 mg. daily.

Form Supplied: Bottles of 100, 500, and 1,000 tablets.

Source: Abbott Laboratories, North Chicago, Ill. (See page 382.)

Mysteclin V Capsules

Description: Each capsule contains Sumycin (tetracycline phosphate complex) equivalent to 250 mg. tetracycline HCl, and Mycostatin (nystatin) 250,000 units, with added sodium metaphosphate.

Indications: For infections of the respiratory, gastrointestinal, and genitourinary systems, amenable to antibiotic therapy; and protection against monilial superinfection.

Administration: One capsule 4 times daily. For children, dosage is calculated on the tetracycline content of Mysteclin V so as to supply 10–20 mg./lb. of body weight each day, in divided doses. Continue all treatment for 24–48 hours after symptoms and fever subside.

Form Supplied: Bottles of 16 and 100 capsules.

Source: E. R. Squibb & Sons, New York, N.Y.

P-I-N Tablets
P-I-N Forte Tablets

Description: Each P-I-N tablet contains isoniazid, 50 mg., and pyridoxine HCl, 1 mg. Each P-I-N Forte tablet contains 100 mg. and 5 mg., respectively, of the same ingredients.

Indications: In treatment of tuberculosis and other uses of isoniazid. Pyridoxine (B_6) aids in avoiding peripheral neuritis symptoms caused by B_6 deficiencies which can occur during isoniazid therapy.

Administration: Daily 2 to 4 or more mg. isoniazid per Kg. body weight, divided into 3 or 4 doses.

Form Supplied: Both forms in bottles of 100, 1,000, 5,000, and bulk quantities for institutions.

Source: The Lannett Co., New York, N.Y.

Suavitil Tablets

Description: Each scored tablet contains 1 mg. benactyzine HCl (2-dimethylaminoethylbenzilate HCl).

Indications: For the treatment of mild anxiety states and psychoneuroses. Contraindicated in patients with glaucoma, frank depression, hysteria, paranoia, or phobic obsessions.

Administration: 0.5 mg. to 1 mg. 3 times daily for 2 or 3 days; if necessary, may increase to 3 mg. 3 times daily. Dosage above 10 mg. a day is not recommended.

Form Supplied: Bottles of 100 tablets.

Source: Merck Sharp & Dohme, Philadelphia, Pa.

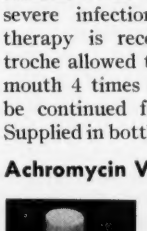
Other New Products

(Including chemicals, clinical trial drugs, diagnostic aids, and equipment for the retail and hospital pharmacy.)

Achromycin Troches

Coral-colored troches containing, in each, 15 mg. tetracycline are marketed by *Lederle Laboratories* for use in the treatment of superficial Gram-positive, Gram-negative and mixed bacterial infections of the mouth and throat. In severe infections additional systemic therapy is recommended. Dosage, 1 troche allowed to dissolve slowly in the mouth 4 times daily. Treatment may be continued for as long as 4 days. Supplied in bottles of 25 and 250 troches.

Achromycin V Syrup



An orange-flavored and colored syrup containing, in each 5 cc.: tetracycline (phosphate buffered) equivalent to 125 mg. tetracycline HCl, with methylparaben 0.12%, propylparaben 0.03%, and sodium bisulfite 0.15%, is marketed by *Lederle Laboratories* for use in patients who do not prefer the capsule form of Achromycin V (250 mg. tetracycline + 380 mg. sodium metaphosphate). Dosage, orally 1 Gm. (8 teaspoonfuls) daily; adjusted for children according to weight and age. Syrup supplied in 2-oz. and 16-oz. bottles.

Albutest Reagent Tablets

Tablets containing bromophenol blue in a buffered absorbent base are marketed by *Ames Company* as a reagent for the detection of protein in urine, which is indicated by a color change on the surface of the tablet to which a drop of urine has been added. The color intensity is proportional to the amount of protein present. Supplied in bottles of 100 and 500 tablets.

Amodex Junior Timed Capsules

Capsules containing, in each, dextroamphetamine HCl, 7.5 mg., and amobarbital, 30 mg., in a slowly disintegrating formulation, are marketed by *Testagar & Co.* for relief of the nervous symptoms of anxiety and for curbing appetite. Dosage, 1 capsule daily upon arising or at breakfast. Supplied in bottles of 100 and 1,000.

Antivy Lotion

A lotion containing tripelennamine HCl 2% and zirconium oxide as hydrous zirconia 4% is marketed by *Ciba Pharmaceutical Co.* for prophylactic and symptomatic treatment of poison ivy and poison oak rash.

Ascriptin w/Codeine Capsules

Capsules containing, in each: aspirin, 300 mg.; Maalox (magnesium aluminum hydroxide), 150 mg.; and codeine phosphate, 15 mg., are marketed by *William H. Rorer, Inc.*, for use in severe pain. Dosage, 1 or 2 capsules. Supplied in bottles of 50. Federal narcotic order required.

Ataraxoid Tablets 2.5 and 1

Pfizer Laboratories have marketed tablets containing Atarax (hydroxyzine) 10 mg. with Sterane (prednisolone) 2.5 mg. or 1 mg. Ataraxoid 2.5 is supplied in bottles of 30 and 100 tablets; Ataraxoid 1.0 only in bottles of 100. The tranquilizing antiinflammatory combination also is available as tablets containing hydroxyzine 10 mg. and prednisolone 5 mg.

C-Ron Tablets

Red, sugar-coated tablets containing, in each: vitamin C, 100 mg., and ferrous gluconate, 300 mg., are marketed by *Rowell Laboratories* as an orally administered effective source of iron in iron deficiency anemia. Dosage, 1 tablet 3 times daily after meals. Bottles of 100 and 1,000 and drums of 5,000.

Dainite–KI Tablets

Tablets composed of 3 different colored granulations and containing, in each tablet: phenobarbital, 1/4 gr., aminophylline, 3 gr. (in yellow granules); ephedrine HCl, 1/4 gr.; ethylaminobenzoate, 1/4 gr.; aluminum hydroxide, 2.5 gr. (in pearl-pink granules); and potassium iodide, 5 gr. (in orange granules with slow-release coating), are marketed by *Irwin, Neisler & Co.* as an antiasthmatic. Dosage, 1 tablet on arising, 1 at 4 P.M., and 1 or 2 at bedtime. Supplied in bottles of 50 in Ans'r Pak carton and in bottles of 500 and 1,000.

Dorbantyl Suspension

A flavored liquid containing, in each 5 cc.: dioctyl sodium sulfosuccinate, 50 mg., and Dorbane (danthron), 25 mg., is marketed by *Schenley Laboratories* for use as a stool softener, bulking agent, and peristaltic stimulant in the management of acute or chronic constipation. Dosage, 2 teaspoonfuls (10 cc.), repeated if necessary; for children 3 to 12 years, 1 or 2 teaspoonfuls. Supplied in 150-cc. bottles.

Dioctyl Sodium Sulfosuccinate Capsules and Tablets

West-ward, Inc., has marketed the stool softener dioctyl sodium sulfosuccinate as 60-mg. (red) and 100-mg. (red) capsules and 60-mg. (coated, pink) and 100-mg. (coated, yellow) tablets. Both forms and all sizes are available in bottles of 100 and 1,000.

Ecolid Tablets 10 mg.
Ecolid Parenteral Solution

Ciba Pharmaceutical Products Inc. has made available their antihypertensive agent Ecolid chloride [chlorisondamine chloride; 4,5,6,7-tetrachloro-2-(2-dimethylaminoethyl)-isoindoline dimethochloride] in a 10-mg. tablet (orange) in addition to the 25-mg. (ivory) and 50-mg. (pink) tablets, and as a solution (5 mg./cc.) in 1-cc. ampuls for i.m. or s.c. injection. The injection is recommended to initiate therapy in hospitalized patients with acute hypertensive crises; the initial dose should not exceed 2.5 mg. Oral dosage should be substituted for maintenance, using approximately 20 times the injectable dose. The tablets are supplied in bottles of 100; the ampuls in cartons of 5.

Equanil Tablets 200 mg.

Equanil (meprobamate) has been marketed by *Wyeth Laboratories* as scored, shield-shaped tablets containing, in each, 200 mg. meprobamate. Supplied in bottles of 50. The muscle-relaxant, tranquilizing drug is available also in the original 400-mg. tablet.

Isopto P.H.N. Suspension

An ophthalmic suspension containing, in each cc.: polymyxin B sulfate, 16,250 u.; neomycin sulfate, 5 mg.; with 0.5% or 1.5% hydrocortisone acetate, and 0.5% methylcellulose, is marketed by *Alcon Laboratories* for use in treatment of inflammatory and infectious lesions of the anterior segment of the eye. Both strengths supplied in 5-cc. Drop-Tainer bottles. Refrigerate, but protect from freezing.

Kynex Syrup

Lederle Laboratories has marketed Kynex (sulfamethoxypyridazine) in a mint-caramel flavored syrup containing 250 mg. of the sulfonamide in each 5 cc. Dosage for treatment of genitourinary infections is 2 Gm. (8 teaspoonfuls) the first day and 1 Gm. daily thereafter. Supplied in 4-oz. bottles. Kynex tablets (500 mg.) are available in bottles of 24 and 100.

Lorfan Tartrate Ampuls 1 cc.

Hoffmann-LaRoche has marketed its parenteral solution containing 1 mg. levallorphan tartrate per cc. in 1-cc. ampuls. Supplied in boxes of 6 ampuls. The 10-cc. vials also are available. The solution is used to prevent respiratory depression due to narcotics such as levorphanol, alphaprodine, morphine, and meperidine.

Methine Tablets

Tablets (scored, light blue) containing, in each: methscopolamine nitrate, 2.5 mg.; and mephobarbital, 32 mg., are marketed by *Rowell Laboratories* for use as an anticholinergic antisecretory and antispasmodic in peptic ulcer therapy. Dosage, 1 tablet orally one-half hour before meals and 1 or 2 at bedtime. The most common side effects are dryness of the mouth, blurring of vision, and constipation. Contraindicated in patients with glaucoma or lower urinary tract obstruction. Supplied in bottles of 100 and 1,000 and drums of 5,000.

Metreton Ophthalmic Suspension

A suspension containing, in each cc.: Meticortelone (prednisolone) acetate, 2 mg. (0.2%), and chlorprophenpyridamine gluconate, 3 mg. (0.3%), is marketed by *Schering Corp.* for use in exudative and inflammatory phases of ocular disorders, such as allergic conjunctivitis and blepharitis; iritis and iridocyclitis; keratitis and scleritis. Supplied in 5-cc. dropper bottle.

Milkinol Improved

The emulsifying mineral oil preparation marketed by *Kremers-Urban Co.* has been altered by the addition of dioctyl sodium sulfosuccinate (stool softener) to improve the constipation correctant. In 12-oz. bottles.

NEW PRESCRIPTION PRODUCTS

Miltown Tablets 200 mg.

Miltown (meprobamate) has been marketed by *Wallace Laboratories* as sugar-coated tablets containing, in each, 200 mg. meprobamate. Supplied in bottles of 50. The muscle-relaxant, tranquilizing drug is available also as uncoated 400-mg. tablets.

Percobarb Capsules

Blue and yellow capsules containing, in each: dihydrohydroxycodeinone HCl, 4.5 mg.; dihydrohydroxycodeinone terephthalate, 0.38 mg.; hexobarbital, 100 mg.; homatropine terephthalate, 0.38 mg.; aspirin, 224 mg.; phenacetin, 160 mg.; and caffeine, 32 mg., are marketed by *Endo Laboratories* as an analgesic sedative for use where codeine plus APC combinations can be used. Dosage, 1 to 2 capsules every 6 hours. Supplied in bottles of 100, 500, and 1,000. Narcotic order required.

Peritrate Sustained Action Tablets

Tablets containing, in each, 80 mg. of pentaerythritol tetranitrate, of which 20 mg. are plain and 60 mg. are in a wax base which gradually releases the drug over a 12-hour period, are marketed by *Warner-Chilcott Labs.* Two tablets daily are stated to provide 24-hour protection against attacks of angina pectoris. Prolonged coronary vasodilation reduces frequency and severity of attack, reduces nitroglycerin dependence, increases exercise tolerance, and improves abnormal EKG findings. Supplied in bottles of 100 and 500 tablets.

Pyribenzamine Lontabs

Ciba Pharmaceutical Products has marketed long-acting light blue tablets containing, in each, 100 mg. tripelennamine HCl, 33 mg. of which forms the Rotocote shell and is available in about 10 minutes after oral ingestion, while 67 mg. of the drug is slowly released in the gastrointestinal tract from the core of the tablet which contains fine particles of tripelennamine HCl dispersed in a special base. This is stated to provide effective action during 12 hours. Less likelihood of drowsiness is claimed. For allergy protection the dosage is 1 tablet on arising and 1 at bedtime. Supplied in bottles of 100 and 1,000 tablets.

Pyridium—New Distributor

Sole distribution of the urinary analgesic Pyridium (phenylazodiaminopyridine HCl) has been taken over by *Warner-Chilcott Laboratories* (see May issue, page 329). The product was formerly distributed by Merck Sharp & Dohme.

Saferon Tablets and Elixir

The S. E. Massengill Co. has marketed peptonized iron in tablet and elixir forms. Each oblong, pink, sugar-coated tablet or each 5 cc. of elixir contains 250 mg. peptonized iron (equivalent to 44 mg. Fe). For use in cases of iron deficiency, the dosage for adults and children is 1 tablet or teaspoonful (5 cc.) 1 to 3 times daily after meals. Supplied in bottles of 100 and 1,000 tablets and in pints and gallons of elixir.

Tashan Cream—1-lb. Jar

The multivitamin cream for relief of skin irritations marketed by *Hoffmann-LaRoche* is now available in 1-lb. jars as well as the 1-oz. tubes.

Thytropar Powder—5-Unit Vial

The *Armour Laboratories* have marketed Thytropar (thyroid stimulating hormone) in 5-cc. vials containing 5 U.S.P. units of lyophilized thyrotropic powder in each vial. The product, which is used for diagnostic and therapeutic applications, is administered (i.m. or s.c. injection) after dissolving the contents of a vial in 1 or 2 cc. of saline solution. Also available are the previously marketed 6-cc. vials containing 10 units each.

Tridex Junior Timed Capsules

Capsules containing, in each, dextroamphetamine HCl, 7.5 mg., in a slowly disintegrating formulation, are marketed by *Testagar & Co.* for use in appetite curbing. Dosage, 1 capsule daily upon arising or at breakfast. Supplied in bottles of 100 and 1,000.

Trimester Therapeutic Capsules

Capsules containing in the daily dose of 4 capsules: hesperidin, 400 mg.; ascorbic acid, 400 mg.; menadione, 2 mg.; thiamine mononitrate, 1.5 mg.; riboflavin, 2 mg.; niacinamide, 15 mg.; folic acid, 1 mg.; pyridoxine HCl, 10 mg.; vitamin B_{12}, 5 mcg., A acetate, 6000 units, D synthetic 400 units; ferrous sulfate exsiccated (coated with methylcellulose), 50 mg.; and calcium carbonate, 450 mg., are marketed by *Haug Drug Co.* for prenatal therapy when there has been a history of miscarriage, habitual abortion, or threatened abortion. Dosage, 2 capsules 2 times daily. Supplied in bottles of 100 and 500.

Vican Pastilles

Candy-like, varicolored pastilles containing, in each: vitamin C, 33 mg.; B_6, 0.1 mg.; A (acetate), 2,500 u., D, 250 u.; B_1, 0.1 mg.; B_{12}, 3 mcg.; and intrinsic factor with B_{12}, $^1/_{64}$ U.S.P. u., are marketed by *Testagar & Co.* as a nutritional adjunct. Dosage, for children, 1 or 2 pastilles daily; adults, 1 or 2 three times daily. Supplied in bottles of 100.

VitaBusch 12

A vitamin B_{12} preparation for use in the food and pharmaceutical industries has been marketed by *Anheuser-Busch, Inc.*

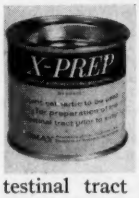
Wycillin DSM Suspension

Wyeth Laboratories have marketed a package of 50 Tubex-sterile needle units (2-cc. size), each 2-cc. Tubex containing 400,000 u. procaine penicillin G and 500 mg. dihydrostreptomycin (as the sulfate) in aqueous suspension. Expiration date: 1 year.

Wycillin SM Suspension

Wyeth Laboratories have marketed a package of 50 Tubex-sterile needle units (2-cc. size), each 2-cc. Tubex containing 300,000 u. procaine penicillin G and 500 mg. streptomycin (as the sulfate) in aqueous suspension. Expiration date: 1 year.

X-Prep Powder



A cocoa-flavored potent cathartic powder containing anthraquinoidal glycosides is marketed by *Gray Pharmaceutical Co.* to be used only for preparation of the intestinal tract prior to x-ray photography. The contents of 1 container is mixed with $^1/_4$ glass of milk until smooth, the glass is filled with milk, and mixed well. The dose should be taken at 7 p.m. the evening prior to x-ray of abdomen. Supplied in 1-dose $^3/_4$-oz. containers.

New with plenty of profit-potential

PLESTRAN

TRADEMARK

A METABOLIC REGULATOR

to boost metabolism during middle-age slowdown

BOUND TO BE A PROFIT-MAKER

PLESTRAN restores muscle tone, vigor and a sense of well-being in 7 to 10 days

A POTENTIAL MARKET OF MILLIONS OF PATIENTS

the PLESTRAN formula:

Ethinyl estradiol	0.005 mg.
Methyltestosterone	2.5 mg.
Proloid® (thyroid globulin)	15.0 mg.

THE PLESTRAN PROFIT PICTURE

	Your Cost	Fair Trade Minimum	Your Profit
100s	$ 2.75	$ 4.59	$ 1.84
500s	11.00	18.33	7.33

Better order today from your wholesaler!

WARNER-CHILCOTT

100 YEARS OF SERVICE TO THE MEDICAL PROFESSION

CUMULATIVE INDEX

NEW PRESCRIPTION PRODUCTS

Listed by Product Name

Abdol with Minerals Capsules for Children, P-D, Apr., 254
Absorbent Cellulose, Busse Hospital Prod., Mar., 179
Achrocidin Syrup, Lederle, Feb., 117
Achrocort Cream, Lederle, Mar., 180
Achromycin Topical Spray, Lederle, Mar., 180; —**Troches,** June, 386
Achromycin V Capsules, Lederle, Mar., 180; —**Syrup,** Lederle, June, 386
Acogesic Capsules, Strasenburgh, Jan., 60
Adenoplex Injection, U.S. Standard Prod., Mar., 179
Albamycin Syrup, Upjohn, Mar., 179; —**Capsules,** Apr., 254
Alba-Penicillin Capsules, Upjohn, Feb., 116; May, 330
Albutest Reagent, Tablets, Ames, June, 387
Amethone HCl Concentrate, Abbott, 330
Amodex Junior Timed Capsules, Testagar, June, 387
Antepar Wafers, B. W. & Co., Jan., 60
Anti-A_1 Lectin, Purified, Hyland, Apr., 254
Antivy Lotion, Ciba, June, 387
Antivert Tablets, Roerig, Apr., 253
Aquatyl Tabules, Irwin Neisler, Mar., 179
Ascorbic Acid Sterile Soln., Upjohn, 180
Ascriptin w/Codeine Capsules, Rorer, 387
Ataraxoid Tablets, Pfizer, Jan., 60; 387
Bendectin Tablets, Merrell, Apr., 253
Ber-Ex Tablets, Ives-Cameron, May, 330
Berubigen Sterile Solution, 1000 mcg./cc., Upjohn, Jan., 61
Biomydrin Ophth. Soln., Nepera, Apr., 254
Biopar Forte Tablets, Armour, Jan., 60
Bivam Tablets, U.S. Vitamin, Mar., 180
BufOpto-Methylose Soln., Prof. Pharm., Jan., 61
BufOpto-Neozin Soln., Prof. Pharm., Jan., 61
BufOpto-Sulfacel-15 Soln., Prof. Pharm., Jan., 61
Butabarpal Injection, Phila. Amp., Jan., 61
Butiserpine R-A Prestabs, McNeil, Jan., 61
Calcets Candispheres, Walker, May, 330
Cantil Tablets; —**with Phenobarbital Tablets,** Lakeside, Jan., 60
Cathocillin Capsules, Merck S&D, Jan., 61; Feb., 117; —**Forte Capsules,** June, 386
Celontin Kapseals, P-D, Apr., 253
Cerofort Drops, White, Jan., 61
Cevicaine Capsules, Columbus Pharm., 180
Chlor-Trimeton Compound Syrup, Schering, Jan., 61
Cholan V Tablets, Maltbie, Feb., 116
Cholografin Methylglucamine, Squibb, 61
Citrisan Tablets, Chicago Pharm., Jan., 61
Clusivol Geriatric Capsules, Ayerst, Apr., 254
Colace Syrup, Mead Johnson, Mar., 180
Compazine, SKF, May, 330
Compocillin-V Filmtab, Abbott, Mar., 180
Convertin-H Tablets, Ascher, Mar., 180
Copain w/Codeine Tablets, Bryant, Apr., 254
Corplex Tablets, Chicago Pharm., Apr., 254
C-Ron Tablets, Rowell, June, 387
Cytoferin Liquid, Ayerst, Feb., 117
Dainite-KI Tablets, Irwin Neisler, June, 387
Depo-ACTH 40 U., Upjohn, Jan., 61
Desitin Cosmetic & Nursery Soap, Desitin, Mar., 180
Digoxin Tablets, U.S.P., Bryant, Jan., 61
Dioctyl Sodium Sulfosuccinate Capsules; —**Tablets,** West-ward, June, 387
Disipal Tablets, Riker, May, 330
Di-Sosul Solution, Drug Industries, Jan., 61
Dorana Ointment; —**Suppositories,** Ives-Cameron, Jan., 61
Dorbantyl Suspension, Schenley, June, 387
Doxegest Tablets, Breon, May, 330
Doxinate Capsules, Lloyd Bros., Mar., 180
Doxinate with Danthron Capsules, Lloyd Bros., Jan., 61
Ecolid Tablets; —**Parenteral Soln.,** Ciba, June, 387
Engran Tablets, Squibb, Jan., 61
Entefur Bolus (Vet.), Eaton, Mar., 180
Enzeon Injection, Breon, Mar., 180
Equanil Tablets, Wyeth, June, 387
Euphenex Tablets, Lloyd, Dab. & West., Jan., 62
Exul Tablets, Yorktown Prod., Jan., 62
Flexin Tablets, Engestic Coated, McNeil, Jan., 62
Gamma Globulin, Breon, May, 330
Gantrimycin Tablets, Hoffmann-LaRoche, Jan., 62
Gitaligin Tablets; —**Injection;** —**Drops,** White Labs., Apr., 253
Glutavene and Glutavene-K, Gray, May, 330
Guaiahist w/Narcotine Capsules, Columbus, Mar., 180
Gymens Tablets, Columbus, Mar., 180
Halotestin Tablets, Upjohn, June, 386
Harmonyl Tablets, Abbott, June, 386
Hesper-C Prenatal, National Drug., Jan., 62
Hycomine Syrup, Endo, Jan., 62
Hydeltra-T.B.A. Suspension, Merck S&D, Feb., 116
Hydrocortisone I.M. Inj. Phila. Amp., 116
Hydrocortisone Oint., West-ward, Feb., 117
Ilotycin Glucoheptonate Dental Cones, Lilly, Feb., 117
Incremin Tablets, Lederle, Feb., 117
Influenza Virus (Type A-FM-1 Strain), Lederle, Feb., 117
Influenza Virus Vaccine Polyvalent, Lederle, Feb., 116
Intracel Lotion, Vitamin Corp., Jan., 62
Isopto P.H.N. Suspension, Alcon, June, 387
Ketonil Powder, Merck S&D, Apr., 253
K-Y Lubricating Jelly, 5-Gm., J&J, Jan., 62
Kynex Tablets, Lederle, Apr., 253; —**Syrup,** June, 387
Lemron Syrup; —**Tablets,** Barnes-Hind, Jan., 62
Leukeran Tablets, B. W. & Co., Mar., 179
Lithitrol Tablets, Columbus, May, 332
Lorfan Tartrate Ampuls, Hoffmann-LaRoche, June, 387
Mandelamine Suspension, Nepera, Mar., 180
Maxukal Injection, Breon, Apr., 253
Medihaler-Phen Inhalation, Riker, Mar., 180
Meprolone Tablets, Merck S&D, Mar., 179
Methine Tablets, Rowell, June, 387
Metreton Ophthalmic Susp., Schering, 387
Mikedimide, Panray, Mar., 180
Milkinol Improved, Kremers-Urban, 387
Miltown Tablets, Wallace, June, 388
Modane Liquid, Warren-Teed, Jan., 62
Mycifradin Pediatric Soln., Upjohn, 330
Mycifradin Sulfate Sterile Powder, Upjohn, May, 330; —**Tablets,** May, 330
Mycostatin for Suspension, Squibb, Feb., 117; —**Dusting Powder,** Squibb, May, 332
Mysteclin V Capsules, Squibb, June, 386
Narcotine, see noscapine
Nectadon, Merck S&D, Feb., 117
Neo-Cortef w/Tetracaine Eye-Ear Ointment (Vet.), Upjohn, Mar., 181
Neocurtasal, Winthrop, Jan., 62
Neo-Hydeltrasol Ophth. Soln., Merck S&D, Feb., 116
Neo-Slowten Tablets, Patch, Feb., 117
Neotuss-PT Syrup, Lloyd, Dab. & West., Jan., 62
Newcastle Disease Vaccine B_1 Strain and Infectious Bronchitis Vaccine Live Virus Aquavac (Vet.), Lederle, Feb., 117
Noctec Capsules; —**Soln.,** Squibb, Jan., 62
Noscapine, formerly narcotine, Merck S&D, Feb., 117; N. Y. Quinine, Apr., 254
Nostyn Tablets, Ames, May, 332
Nugesteral Tablets, Organon, Apr., 253
Obid Capsules, Ingram, Mar., 181
Optef Eye Drops, Upjohn, Mar., 181
Ozium Spray, Woodlets, Apr., 254
Pacatal Tablets; —**Parenteral,** Warner, Chilcott, Mar., 179
Panmycin Phosphate Capsules, Upjohn, Mar., 179
Pantho-F Cream, U. S. Vitamin, Mar., 181
Parenzyme Aqueous for Injection, National Drug., Feb., 116
Pentafort Capsules, Sutliff & Case, May, 332
Pen-Vee-Cidin Capsules, Wyeth, Feb., 116
Percobarb Capsules, Endo, June, 388
Peri-Colase Capsules; —**Syrup,** Mead Johnson, May, 332
Peritrate Sustained Action Tablets, Warner-Chilcott, June, 388
Phenaphen Plus Tablets, Robins, Feb., 117
Phenix Graduates, N.B.S., 40, Armstrong Cork, Jan., 62
P-I-N Tablets; —**Forte Tablets,** Lannett, June, 386
Placidyl Capsules, Abbott, Mar., 181
Plaquenil Sulfate Tablets, Winthrop, Jan., 60
Plimasin Tablets, Ciba, Mar., 181
Prednefrin Ophthalmic Suspension, Allergan Corp., Apr., 253
Price Spot Closures, Owens-Ill., Jan., 62
Prorol Electric Toothbrush, Prorol, Feb., 117
Puraliv Injectable, Phila. Ampoule, Feb., 116
Pyribenzamine Lontabs, Ciba, June, 388
Pyridium, Warner-Chilcott, June, 388
Quadamine Granucap, Tutag, Mar., 181
Rabies Vaccine, Dried Killed Virus (Duck Embryo), Lilly, Apr., 253
Rabro Tablets, Osthold, Feb., 117
Rapacodin, Bilhuber-Knoll, Jan., 62
Resydess Tablets, Chicago Pharm., Jan., 63
Robane for Topical Formulations, Robeco Chemicals, Apr., 254
Saferon Tablets; —**Elixir,** Massengill, June, 388
Salserp Tablets, Carnrick, Mar., 181
Salundek Ointment, Maltbie, Feb., 117
Selsunef Ointment, Abbott, Mar., 181
Sigmamycin Suspension, Pfizer, Feb., 117; —**Capsules,** Apr., 254
Silicote Liquid Spray, Arnar-Stone, May, 332
Sleep-Eze Tablets (formula change), Sleep-Eze Co., Jan., 63
Solu-Cortef Sterile (Vet.), Upjohn, Mar., 181
Sprayway Cold Relief Aerosol, Tru-Pine, Jan., 63
Stilphostrol Tablets, Ames, Jan., 63
Suavitil Tablets, Merck S&D, June, 386
Sul-Spansion, SKF, Jan., 60
Sumycin Capsules, Squibb, Apr., 254
Supplifort Elixir, White, May, 332
Suromate Tablets, Patch, May, 332
Sweeta Tablets, Squibb, May, 332
Synestol Tablets, White, Mar., 181
TACE with Androgen Capsules, Merrell, Jan., 63
Tashan Cream, Hoffmann-LaRoche, June, 388
Tedral Pediatric Suspension, Warner-Chilcott, May, 332
Tempra Drops; —**Syrup,** Mead Johnson, May, 332
Terrabon Pediatric Drops, Pfizer, Jan., 63
Tetracydin Tablets, Pfizer, Mar., 181
Tetrex Capsules, Bristol, Feb., 116; —**Syrup,** May, 332
Theofed Pediatric Tablets, Sutliff & Case, May, 332
Therabex Captabs, Bryant, Apr., 254
Theragran Liquid, Squibb, Jan., 63
Theral Granucap, Tutag, Mar., 181
T. H. & M. Syrup, Upjohn, Jan., 63
Thytropar Powder, Armour, June, 388
Tolpal Injection, Phila. Ampoule, Jan., 60
Tolseram Tablets; —**Suspension,** Squibb, Jan., 63
Tral Filmtab, Abbott, Apr., 254
Tral w/Phenobarb. Filmtab, Abbott, Apr., 254
Tranquil Tablets, Mar., 181
Travad, Travenol, May, 334
Tridex Junior Timed Capsules, Testagar, June, 388
Trilafon Tablets, Schering, Apr., 254
Trimester Therapeutic Capsules, Haug, June, 388
Troph-Iron Tablets, SKF, Jan., 63
Tryptar Ointment, Armour, Jan., 63; —new form, Mar., 181
Twinmin Tablets, Canfield, Apr., 254
Tylenol Elixir, McNeil, Mar., 179
Ultran Pulvules, Lilly, Mar., 179
Unicap M Capsules, Upjohn, Jan., 63
Vastran Forte Capsules, Wampole, Jan., 63
V-Cillin-Sulfa Pediatric for Suspension, Lilly, Jan., 63
Vican Pastilles, Testagar, June, 388
Vi-Cert for Parenteral Soln., Travenol, May, 332
ViDaylin-T Liquid, Abbott, Apr., 254
Vigran-M Capsules, Squibb, May, 332
Vi-Penta Drops, Hoffmann-LaRoche, Mar., 181
Vistabolic Tablets; —**Injectable,** Organon, Jan., 63
VitaBusch 12, Anheuser-Busch, June, 388
Vitamin B_{12} Gel. Inj., Phila. Amp., Mar., 181
Vitamin E Acetate Powder, Hoffmann-La-Roche, Feb., 117
Wycillin DSM Suspension, Wyeth, June, 388
Wycillin SM Suspension, Wyeth, June, 388
X-Prep Powder, Gray, June, 388

Listed by Manufacturer

Abbott Laboratories
Amethone HCl Concentrate, May, 330
Compocillin-V Filmtab, Mar., 180
Harmonyl Tablets, June, 386
Placidyl Capsules, Mar., 181
Selsunef Ointment, Mar., 181
Tral Filmtab, Apr., 254
Tral w/Phenobarbital Filmtab, Apr., 254
ViDaylin-T Liquid, Apr., 254

Alcon Laboratories
Isopto P.H.N. Suspension, June, 387

Allergan Corporation
Prednefrin Ophthalmic Susp., Apr., 253

Alva Laboratories
Tranquil Tablets, Mar., 181

Ames Company, Inc.
Albutest Reagent Tablets, June, 387
Nostyn Tablets, May, 332
Stilphostrol Tablets, Jan., 63

Anheuser-Busch, Inc.
VitaBusch 12, June, 388

Armour Laboratories
Biopar Forte Tablets, Jan., 60
Thytropar Powder, June, 388
Tryptar Ointment, Jan., 63; Mar., 181

Armstrong Cork Company
Phenix Graduates, N.B.S. 40, Jan., 62

Arnar-Stone Laboratories
Silicote Liquid Spray, May, 332

B. F. Ascher & Company
Convertin-H Tablets, Mar., 180

Ayerst Laboratories
Clusivol Geriatric Capsules, Apr., 254
Cytoferin Liquid, Feb., 117

Barnes-Hind Laboratories
Lemron Syrup; —Tablets, Jan., 62

Bilhuber-Knoll Corp.
Rapacodin (formerly Paracodin), Jan., 62

George A. Breon & Company
Doxegest Tablets, May, 330
Enzeon Injection, Mar., 180
Gamma Globulin, May, 330
Maxukal Injection, Apr., 253

Bristol Laboratories
Tetrex Caps., Feb., 116; —Syrup, May, 332

Bryant Pharmaceutical Corp.
Copain w/Codeine Tablets, Apr., 254
Digoxin Tablets U.S.P., Jan., 61
Therabex Captabs, Apr., 254

Burroughs Wellcome & Company (USA)
Antepar Wafers, Jan., 60
Leukeran Tablets, Mar., 179

Busse Hospital Products
Absorbent Cellulose, Mar., 179

C. R. Canfield & Company
Twinminn Tablets, Apr., 254

G. W. Carnrick Company
Salserp Tablets, Mar., 181

Chicago Pharmacal Company
Citrisan Tablets, Jan., 61
Corplex Tablets, Apr., 254
Resydess Tablets, Jan., 63

Ciba Pharmaceutical Products
Antivy Lotion, June, 387
Ecolid Tablets; —Parenteral, June, 387
Plimasin Tablets, Mar., 181
Pyribenzamine Lontabs, June, 388

Columbus Pharmacal Company
Cevicaine Capsules, Mar., 180
Guaiahist w/Narcotine Caps., Mar., 180
Gymens Tablets, Mar., 180
Lithitrol Tablets, May, 332

Desitin Chemical Company
Desitin Soap, Mar., 180

Drug Industries Company
Di-Sosul Solution, Jan., 61

Eaton Laboratories
Entefur Bolus (Vet.), Mar., 180

Endo Laboratories
Hycomine Syrup, Jan., 62
Percobarb Capsules, June, 388

Gray Pharmaceutical Company
Glutavene and Glutavene-K, May, 330
X-Prep Powder, June, 388

Haug Drug Company
Trimester Therapeutic Capsules, 388

Hoffmann-LaRoche Inc.
Gantrimycin Tablets, Jan., 62
Lorfan Tartrate Ampuls, June, 387
Tashan Cream, June, 388
Vi-Penta Drops, Mar., 181
Vitamin E Acetate Powder, Feb., 117

Hyland Laboratories
Anti-A_1 Lectin, Purified, Apr., 254

Ingram Pharmaceutical Company
Obid Capsules, Mar., 181

Irwin, Neisler & Company
Aquatyl Tabules, Mar., 179
Dainite-KI Tablets, June, 387

Ives-Cameron Co., Inc.
Ber-Ex Tablets, May, 330
Dorana Ointment; —Suppos., Jan., 61

Johnson & Johnson
K-Y Lubricating Jelly (new size), Jan., 62

Lakeside Laboratories, Inc.
Cantil Tablets; with Phenobarbital, 60

The Lannett Company
P-I-N Tablets; —Forte Tablets, June, 386

Lederle Laboratories
Achrocidin Syrup, Feb., 117
Achrocort Cream, Mar., 180
Achromycin Topical Spray, 180; Troch., 386
Achromycin V Capsules, 180; Syr., 386
Incremin Tablets, Feb., 117
Influenza Virus (Type A-F-M-1), Feb., 117
Influenza Virus Vaccine Polyvalent, 116
Kynex Tablets, Apr., 253; —Syrup, 387
Newcastle Disease Vaccine B_1 Strain and Infectious Bronchitis Vaccine Virus, 117

Eli Lilly and Company
Ilotycin Glucoheptonate Dental Cones, Feb., 117
Rabies Vaccine, Dried Killed Virus, 253
Ultran Pulvules, Mar., 179
V-Cillin-Sulfa Pediatric for Susp., 63

Lloyd Bros., Inc.
Doxinate Capsules, Mar., 180
Doxinate with Danthron Capsules, Jan., 61

Lloyd, Dabney & Westerfield, Inc.
Euphenex Tablets, Jan., 62
Neotuss-PT Syrup, Jan., 62

Maltbie Laboratories
Cholan V Tablets, Feb., 116
Salundek Ointment, Feb., 117

The S. E. Massengill Company
Saferon Tablets; —Elixir, June, 388

McNeil Laboratories, Inc.
Butiserpine R-A Prestabs, Jan., 61
Flexin Tablets, Engestic Coated, Jan., 62
Tylenol Elixir, Mar., 179

Mead Johnson & Company
Colace Syrup, Mar., 180
Peri-Colace Capsules; —Syrup, May, 332
Tempra Drops; —Syrup, May, 332

Merck Sharp & Dohme
Cathocillin Capsules, Jan., 61; Feb., 117
Cathocillin Forte Capsules, June, 386
Hydeltra-T.B.A. Suspension, Feb., 116
Ketonil Powder, Apr., 253
Meprolone Tablets, Mar., 179
Nectadon (noscapine, narcotine), Feb., 117
Neo-Hydeltrasol Ophth. Soln., Feb., 116
Suavitil Tablets, June, 386

The William S. Merrell Company
Bendectin Tablets, Apr., 253
TACE with Androgen Capsules, Jan., 63

National Drug Company
Hesper-C Prenatal, Jan., 62
Parenzyme Aqueous for Inj., Feb., 116

Nepera Chemical Company
Biomydrin Ophthalmic Soln., Apr., 254
Mandelamine Suspension, Mar., 180

New York Quinine & Chemical Works
Noscapine for Narcotine, Apr., 254

Organon, Inc.
Nugestoral Tablets, Apr., 253
Vistabolic Tablets; —Injectable, Jan., 63

Hugo Osthold, Inc.
Rabro Tablets, Feb., 117

Owens-Illinois
Price Spot Closures, Jan., 62

Panray Corp.
Mikedimide, Mar., 180

Parke, Davis & Company
Abdol with Minerals Caps. (Ped.), Apr., 254
Celontin Kapseals, Apr., 253

E. L. Patch Company
Neo-Slowten Tablets, Feb., 117
Suromate Tablets, May, 332

Pfizer Laboratories
Ataraxoid Tablets, Jan., 60; June, 387
Sigmamycin Suspension, Feb., 117; —Capsules, Apr., 254
Terrabon Pediatric Drops, Jan., 63
Tetracydin Tablets, Mar., 181

Philadelphia Ampoule Laboratories
Butabarpal Injection, Jan., 61
Hydrocortisone I. M. Injection, Feb., 116
Puraliv Injectable, Feb., 116
Tolpal Injection, Jan., 60
Vitamin B_{12} Gel Injection, Mar., 181

Professional Pharmacal Co.
BufOpto-Methulose Solution, Jan., 61
BufOpto-Neozin Solution, Jan., 61
BufOpto-Sulfacel-15 Solution, Jan., 61

Prorol Corporation
Prorol Electric Toothbrush, Feb., 117

Riker Laboratories
Disipal Tablets, May, 330
Medihaler-Phen Inhalation, Mar., 180

Robeco Chemicals, Inc.
Robane for Topical Formulas, Apr., 254

A. H. Robins Company
Phenaphen Plus Tablets, Feb., 117

J. B. Roerig and Company
Antivert Tablets, Apr., 253

William H. Rorer, Inc.
Ascriptin w/Codeine Capsules, June, 387

Rowell Laboratories
C-Ron Tablets, June, 387
Methine Tablets, June, 387

Schenley Laboratories
Dorbantyl Suspension, June, 387

Schering Corporation
Chlor-Trimeton Compound Syrup, Jan., 61
Metreton Ophthalmic Suspension, 387
Trilafon Tablets, Apr., 254

Sleep-Eze Company
Sleep-Eze Tablets, Jan., 63

Smith, Kline & French Laboratories Inc.
Compazine, May, 330
Sul-Spansion, Jan., 60
Troph-Iron Tablets, Jan., 63

E. R. Squibb & Sons
Cholografin Methylglucamine, Jan., 61
Engran Tablets, Jan., 61
Mycostatin for Suspension, Feb., 117; —Dusting Powder, May, 332
Mysteclin V Capsules, June, 386
Noctec Capsules; —Solution, Jan., 62
Sumycin Capsules, Apr., 254
Sweeta Tablets, May, 332
Theragran Liquid, Jan., 63
Tolseram Tablets; —Suspension, Jan., 63
Vigran-M Capsules, May, 332

R. J. Strasenburgh Co.
Acogesic Capsules, Jan., 60

Testagar & Company
Amodex Junior Timed Capsules, June, 387
Tridex Junior Timed Capsules, June, 388
Vican Pastilles, June, 388

Travenol Laboratories
Travad, May, 332
Vi-Cert for Parenteral Solution, May, 332

Tru-Pine Co.
Sprayway Cold Relief Aerosol, Jan., 63

The Upjohn Company
Albamycin Syrup, Mar., 179; Caps., 254
Alba-Penicillin Capsules, 191, 330
Ascorbic Acid Sterile Solution, Mar., 180
Berubigen Sterile Solution, Jan., 61
Depo-ACTH 40 U. (new size), Jan., 61
Halotestin Tablets, June, 386
Mycifradin Pediatric Soln., May, 330
Mycifradin Sulfate Powd., 330; Tabs., 330
Neo-Cortef w/Tetracaine Eye-Ear Ointment (Vet.), Mar., 181
Optef Eye Drops, Mar., 181
Panmycin Phosphate Capsules, Mar., 179
Solu-Cortef, Sterile (Vet.), Mar., 181
T. H. & M., Syrup, Jan., 63
Unicap M Capsules, Jan., 63

U. S. Standard Products Company
Adenoplex Injection, Mar., 179

U. S. Vitamin Corp.
Bivam Tablets, Mar., 180
Pantho-F 0.2% Cream, Mar., 181

The Vitamin Corp. of America
Intracel Lotion, Jan., 62

Walker Laboratories
Calcets Candispheres, May, 330

Wallace Laboratories
Miltown Tablets, June, 388

Wampole Laboratories
Vastran Forte Capsules, Jan., 63

Warner-Chilcott Laboratories
Pacatal Tablets; —Parenteral, Mar., 179
Peritrate Sustained Action Tablets, 388
Pyridium, June, 388
Tedral Pediatric Suspension, May, 332

The Warren-Teed Products Co.
Modane Liquid, Jan., 62

West-ward, Inc.
Dioctyl Sodium Sulfosuccinate Caps., 387
Hydrocortisone Ointment, Feb., 117

White Laboratories, Inc.
Cerofort Drops, Jan., 61
Gitaligin Tablets; Injection; Drops, 253
Supplifort Elixir, May, 332
Synestrol Tablets, Mar., 181

Winthrop Laboratories, Inc.
Neocurtasal (new formula), Jan., 62
Plaquenil Sulfate Tablets, Jan., 60

Woodlets Inc.,
Ozium Spray, Apr., 254

Wyeth Laboratories, Inc.
Equanil Tablets, June, 387
Pen-Vee Cidin Capsules, Feb., 116
Wycillin DSM Suspension, June, 388
Wycillin SM Suspension, June, 388

Yorktown Products Corp.
Exul Tablets, Jan., 62

ADVERTISING INDEX

Abbott Laboratories
Dayalets..... 325
Erythrocin.....54–55, 118–119, 135, 171, 188 inside back cover, April, 276, 333 inside front cover and inside back cover, June
Harmonyl.....382–383
Iberol....inside front cover, Jan., Mar., May
Sur-Bex.....197, 343

The American Druggists' Insurance Company....113, 194, 348

Ames Company, Inc.
Clinitest.....192, 264
Nostyn...14, 130, inside front cover, Apr.

Atlas Powder Company
N.F. & U.S.P. Pharmaceutical Aids.....77, 208

Blakiston Div., McGraw-Hill Book Comapny
"Scoville's The Art of Compounding"..... 268

Bristol Laboratories Inc.
Tetrex Capsules..... 207

Bristol-Myers Company
Bufferin..... 263

The Bulman Corporation
Cabinets..... 57
Prescription Centers.....134, 266

Cairo University.....19, 74

Chesebrough Mfg. Co.
Half-inch Petrolatum Gauze.....133, 209

Encyclopaedia Britannica, Inc.
Great Books of the Western World..... 73

Hoffmann-LaRoche Inc.
Gantrimycin..... ....inside back cover, Jan., Feb.
Marsilid.....346–347

Hynson, Westcott & Dunning
Mercurochrome.....4th cover
Thantis Lozenges..... .....back cover, Jan., Mar.
Trexinest..... ....back cover, Feb., Apr., May

Johnson & Johnson
K-Y Sterile Lubricant.....47, 161

Lea & Febiger
"Gathercoal and Wirth Pharmacognosy"..... 277

Lederle Laboratories
Achrocidin Syrup.....107, 331
Achromycin V.....176–177, 281
A.Ph.A. Convention Invitation..... 152
Gevral..... 71
Incremin..... 43
Kynex.....240–241
Pathibamate..... 379

Eli Lilly and Company
Homicebrin..... 258
Mi-Cebrin.....122, 338
Multicebrin..... 186
V-Cillin..... 2
Vi-Mix Drops..... 66

J. B. Lippincott Company
N.F.X.; other publications...50, 51

The MacBick Company
"Specialist for the Pharmacist"..... 247

The S. E. Massengill Company
Prescription Specialties..... .....65, 127, 185

McKesson & Robbins, Inc.
"Step-Saver" Shelf Unit..... 201

Merck & Company
Fruit-Freeze..... 351

Merck, Sharp & Dohme
Metrolone..... 243

National Brands Div., Sterling Drug Inc.
Bayer Aspirin..... 275

Owens-Illinois
1854 Show Globe..... 17
Prescription Vials.....203, 337

Parke, Davis & Company
Geriplex.....23, 137, 273
Myadec..inside front cover, Feb.; 199, 353

Pfizer Laboratories
Matromycin..... 205
Sigmamycin.....1, 109, 173

Philadelphia College of Pharmacy and Science..... .....15, 138, 196, 270

Pictorial Paper Package Corp.
Hinged Prescription Boxes... 79

A. H. Robins Co., Inc.
Prescription Specialties..... .....11, 131, 269

Schering Corporation
Meti-Steroids.....center spread, Jan., Feb., Mar., Apr., May
Sebizon Lotion..... 7, inside back cover, Mar., 244–245
Trilafon 274–275, center spread, May, 278-279, center spread, June

Smith, Kline & French Laboratories
Benzedrex..... 267
Compazine Ampuls..... 280
Compazine Tablets..... 257

E. R. Squibb & Sons
Engran.....24, 169
Mysteclin V..... 321
Sumycin..... 237

Sunkist Growers
Citrus Bio-flavonoids..... 9, 121, inside back cover, May
Pectin N.F.....75, 195, 355

Travenol Laboratories, Inc.
Incert Additive Vial.....235, 340
Vi-Cert..... 260

Warner-Chilcott Laboratories
Plestran...13, 68, 165, 249, 327, 389
Pyridium..... 329

Winthrop Laboratories, Inc.
New prescription items..... 4
Neocurtasal..... 124
Neo-Synephrine..... 191
NTZ Nasal Spray..... 375
pHiso Hex.....111, 271

Wyeth, Inc.
Collyrium..... 349
Pen-Vee-Cidin..... 21
Hospital Pharmacy..... 251

.. 205
109, 173

ar-
..
196, 270

o.
.. 79

..
131, 269

spread,
or., May
... 7,
244–245
spread,
ad, June

ra-
.. 267
.. 280
.. 257

.24, 169
.. 321
.. 237

..
er, May
195, 355

235, 340
.. 260

327, 389
... 329

... 4
... 124
... 191
... 375
111, 271

... 349
... 21
... 251